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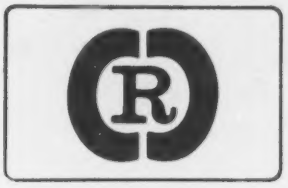

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WORKING PAPER NO. 44

Asset Exemptions and Propensity to File Personal Bankruptcy

Krannert Graduate School of Management – Purdue University

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ASSET EXEMPTIONS AND PROPENSITY TO FILE PERSONAL BANKRUPTCY

A. Charlene Sullivan*

Abstract

This paper analyzes data collected from a sample of consumers who filed for personal bankruptcy after the enactment of the Bankruptcy Reform Act of 1978. The purpose of the study is to evaluate the relationship between the statutory level of assets exempted in a state and the financial characteristics of consumers taking bankruptcy in that state. The data used in the analysis are collected in ten different states that varied considerably in terms of the maximum homestead exemption. We hypothesize that in states that had liberal exemptions relatively more petitioners for bankruptcy will be homeowners with a higher amount of equity in their homes than will be the case for petitioners from more restrictive states.

The major evidence presented in the study supports the hypothesis. In the cross-state analysis, petitioners from states with a liberal homestead exemption had significantly more equity in their home relative to petitioners from more restrictive states. Petitioners filing under liberal exemption statutes also had significantly more total

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assets relative to total debt and were significantly less likely to have had a negative net worth at the time they filed.

In a separate analysis of data collected in a state where petitioners could choose to file under a very liberal state household exemption or the federal exemption, similar evidence is found. Petitioners filing under the state exemption were significantly more likely to own a home and had significantly more equity in their home, on average, than petitioners filing under the less generous federal statute. In addition, petitioners filing under the state statute had significantly more assets relative to debt and were significantly less likely to have a negative net worth than the petitioners in the same state who filed under the federal statute.

In sum, we conclude that the level of exemptions does influence a consumer's decision to take bankruptcy as hypothesized. Where homestead exemptions were relatively liberal, petitioners who owned a home were significantly more wealthy than homeowning petitioners filing under less liberal exemption conditions. The public policy implication of this study is that, given that no legal definition of need for personal bankruptcy is defined, the exemption definition applicable in a state provides a standard by which consumers evaluate the rationality of the decision to file. Thus, when exemptions are liberal, more consumers can "qualify" for bankruptcy.

ASSET EXEMPTIONS AND PROPENSITY TO FILE PERSONAL BANKRUPTCY

I. Introduction

An individual who voluntarily petitions for personal bankruptcy under Chapter 7 of the Federal Bankruptcy Reform Act of 1978 is entitled to retain possession of a specified amount of personal and household assets. The purpose of the exemption of these assets is to enable the individual to keep essential assets to make a "fresh start" after bankruptcy.

The dollar value of assets exempted from possible seizure by unsecured creditors was determined by a patchwork of state laws until the Bankruptcy Reform Act became effective in 1979. That legislation established a federal standard for exempt property and gave the petitioner the option of selecting either state or federal exemption standards to govern his or her property in bankruptcy. However, Section 522 (b)(1) of the bankruptcy code permits a state to deny to its citizens the right to use federal exemptions. When such a state law exists, citizens who file for Chapter 7 must use exemptions provided by the state law. To date, 32 states have passed a law overriding the federal definition of exemptions. As a result, there remains considerable diversity across the states in the types and amounts of household and personal assets that are exempt.

A. Issue

What is the effect of the level of asset exemptions on consumers' propensity to file bankruptcy? The expected costs of bankruptcy include assets that will be forfeited to satisfy claims of unsecured creditors, administrative and legal fees, social stigma attached to bankruptcy, and the effect of bankruptcy on future ability to obtain debt.[1] Thus, the higher the value of exempted assets, holding other things constant, the lower the expected cost of bankruptcy.

For individuals who are considering bankruptcy who have no assets and large amounts of unsecured debt, the value of asset exemptions is immaterial. However, for individuals who have a large amount of assets and debt, the value of asset exemptions may be an important factor in their decision to file bankruptcy. Given the lower expected cost of bankruptcy for wealthy consumers in states with high asset exemptions relative to states with lower exemptions, one would hypothesize that, holding other things constant, wealthy consumers would be more likely to petition for bankruptcy in states with high exemptions than in states with less generous asset exemptions.

In this paper we perform a cross-state analysis of the hypothesized relationship between the value of asset exemptions and the wealth characteristics of petitioners for personal bankruptcy. We also analyze the wealth characteristics of a sample of petitioners in one state where a choice of asset exemptions (federal or state) was available.

B. Literature Review

In their analysis of bankruptcy, Stanley and Girth estimated that "liberal state exemption laws, as in Texas, tend to discourage bankruptcy."[2]

However, a rationale for that judgment was not presented, and the "validation" of the hypotheses rested on agreement with that view by a bare majority of five of eight creditors' attorneys interviewed in Western Texas.

In contrast to Stanley and Girth, Apilado, Dauten and Smith (ADS) hypothesized a positive relationship between the rate of personal bankruptcies and "the relative level of personal property exemptions from bankruptcy estate among states."[3] The empirical evidence to support the hypothesis was drawn from a cross-state study of factors associated with the incidence of bankruptcy. The results were mixed. On the one hand, the number of bankruptcies per 100,000 population was significantly lower in states with low exemptions relative to states providing high or liberal exemptions. On the other hand, they found that, ceteris paribus, the rate of bankruptcy in states with medium exemptions was significantly higher than the rate in states with generous exemptions. A basic purpose of this study is to resolve the conflict of these two studies by providing additional empirical evidence of the economic effect of asset exemptions from detailed data obtained from a sample of consumers filing for bankruptcy under Chapter 7 in mid-1981.

II. The Analysis

To analyze the relationship between the value of asset exemptions in a state and the wealth characteristics of petitioners for personal bankruptcy, it was necessary to classify states according to the level of exemptions. It is extremely difficult to rank states in terms of the liberality of their asset exemptions because of the complexity

and diversity of assets exempted. ADS did not provide specifics concerning the method they used in their study to classify states according to the liberality of asset exemptions. However, they pointed out that the "categorization of a state's exemption statutes depends not so much on the specifics of the statute but on the way they are usually applied."[4]

For this study the maximum value of homestead exemption was chosen as the basis for classification of states into low- and high-exemption groups, because every state provides a homestead exemption in contrast to other types of exemptions. However, it was not always the case that a state providing a liberal homestead exemption also provides liberal exemptions for other types of assets.

The private residence is usually the most valuable asset on the balance sheet of the household and equity in the residence is a major component of household wealth.[5] However, the Federal Bankruptcy Reform Act allows a person who does not own a home to protect other assets with the homestead exemption, and a person who has less than the maximum exempted equity in the principal residence is permitted to apply the excess against other assets.

Data were collected in ten states that varied considerably in terms of the maximum homestead exemption (Exhibit 1). Five states had low-exemption allowances relative to the exemptions provided by the federal code, except Louisiana. However, because Louisiana had a very low exemption for personal property relative to that allowed by the federal code, that state was included in the low-exemption sample. (All five of the low-exemption states had overridden the federal code.) Two of the five high-exemption states included in the study had homestead exemptions that were higher than the homestead exemption allowed by the federal code.

EXHIBIT 1

HOMESTEAD EXEMPTIONS

State	Group Designator	Maximum Household Exemption
Ohio	Low	$5,000 per debtor
Virginia	Low	$5,000 (one spouse only)
Georgia	Low	$5,000 (head of household only)
Illinois	Low	$10,000 (one spouse only)
*Louisiana	Low	$15,000 (one spouse only)
*New York	High	$ 7,500 per debtor
*Pennsylvania	High	$ 7,500 per debtor
*Wisconsin	High	$ 7,500 per debtor
*California	High	$45,000 household exemption (head of household only)
*Texas	High	160 acre homestead exemption (head of household only)

*Homestead exemption equal to or greater than federal exemption.

[1]The homestead exemption in Louisiana was not more restrictive than that provided by 11U.S.C.A. Section 522(d) for a couple filing joint bankruptcy. However, the personal property exemption in Louisiana was very low. Consequently, Louisiana was included in the study as a low exemption state.

The other three states included in the study had not overridden the federal code which provided a homestead exemption of $7,500 in residential property per debtor.[6]

The data were collected in personal interview surveys of consumers who filed bankruptcy under Chapter 7 of the U.S. Bankruptcy Code in June and July 1981.[7] Almost 1200 consumers in the ten states were randomly selected to be interviewed while they were in the process of filing bankruptcy and key balance sheet information was coded from the bankruptcy petition of each respondent. The present study was performed using data collected from 1139 respondents filing a nonbusiness related personal bankruptcy.

III. Financial Characteristics of Petitioners Filing in Low-Exemption States versus High-Exemption States

Petitioners from the ten states were divided into low-exemption and high-exemption groups, and variables reflecting the mean financial characteristics of petitioners in each group were calculated (Exhibit 2). The dollar values were adjusted to reflect differences in the cost of living across the states by using adjustments based on data from the Bureau of Labor Statistics.[8]

Because recent studies have shown that annual household income is an important determinant of asset accumulation and financial strength for the household, we expected to find a significant difference in mean annual income across the two groups.[9] However, the difference between the average before-tax income for petitioners in the low-exemption states ($12,910) was not significantly different from that of petitioners in the high-exemption states ($14,710). Although the means were insignificantly different, the percentages of petitioners in the highest income category

EXHIBIT 2

FINANCIAL CHARACTERISTICS OF PETITIONERS FILING UNDER ALTERNATIVE DEFINITIONS OF ALLOWED ASSET EXEMPTIONS

(Variable Means)

	Low Exemption	High Exemption
Number of cases	579	560
Before-tax income	$12,910	$14,710
Percent homeowners[1]	17.6%	20.2%
Household equity[1]	$1,688**	$12,887**
Total assets	$12,208**	$16,822**
Total exemptions	$4,143**	$9,097**
Total assets/total debts	45.7% **	59.6%**
Percent with negative net worth before bankruptcy	73%**	66%**
Debt excluding mortgage/ before-tax income	241%	183%

**Significantly different at 90 percent level of confidence.

[1]A homeowner was a respondent who indicated they were buying or owned their principal residence and who provided values for the market value of the home and the face value of the claims against the home.

for each group were significantly different. Eighteen percent of petitioners in the high-exemption states reported an annual before-tax income in the year they filed for bankruptcy in excess of $20,000, compared to only 13 percent of the petitioners in the low-exemption states.

Only about 25 percent of the total sample of non-business petitioners included in the sample (N=1139) indicated that they owned their own home. However, only 19 percent of the sample gave market values and mortgage balances on their principal residences on their bankruptcy petitions. The level of homeownership among petitioners was far below that found among debt-users in general. A 1977 survey of consumers found that 72 percent of consumers who used consumer credit owned their own home.[10]

The level of homeownership was not significantly different across the low- and the high-exemption groups. There was, however, a significant difference in the average amount of household equity in the principal residence declared by the two groups on their bankruptcy petitions. Homeowners who provided the necessary information in the low-exemption states reported an average of $1,688 of household equity relative to an average of $12,887 for petitioners in the high-exemption states. In both groups, the averages were generally well below the minimum amount of household equity which was exempted.

A very interesting characteristic of the data on household equity was the percentage of petitioners in each group with negative equity in their principal residence. In the low-exemption states 26 percent of homeowners who provided market and mortgage values reported a negative equity compared to 4.4 percent of homeowners in the high-exemption states.

In two-thirds of the cases where negative equity was reported, the petitioners had a second mortgage loan on their principal residence.

The greater wealth of petitioners in the high-exemption states relative to those in the low-exemption states was reflected in other measures of financial condition. Petitioners in the low-exemption states had significantly less total assets than petitioners in the high-exemption states. Further, petitioners in the low-exemption states claimed an average of $4,143 in exempted assets compared to $9,097 of exempted assets claimed by petitioners in the high-exemption states.

The financial strength of any entity is generally measured by the relationship between assets and debts and by the relationship between some measure of debt repayment obligations relative to income. Because consumer and mortgage credit contracts generally have maturity exceeding one year, total outstanding debt relative to annual income is not an ideal measure of consumer indebtedness. However, the ratio is a useful measure of relative indebtedness of the two groups. Petitioners in the states that allowed relatively strict exemptions had more nonmortgage debt relative to income than petitioners in the states with more liberal asset exemptions. However, the means were not significantly different. Petitioners in the low-exemption states had significantly higher debts relative to assets than petitioners in the high-exemption states. In fact, there was a significant difference in the percentages of each group that were actually insolvent at the time of filing. About 73 percent of petitioners in the low-exemption states had negative net worth at the time they filed for bankruptcy relative to slightly less than two-thirds of petitioners in the high-exemption states.

The data support our hypothesis that petitioners in states that allowed relatively generous homestead exemptions had significantly greater wealth, primarily in the form of household equity and were in a stronger overall financial position, on average, than petitioners in states that allowed relatively sparse homestead exemptions. This finding could be interpreted in two ways. The first is that petitioners in the low-exemption states simply understated the value of their assets to reduce the amount of nonexempt assets reflected on the petition. The data used in this study were recorded from bankruptcy petitions that had not been reviewed by creditors. Therefore, creditors had not had an opportunity to challenge valuation of property listed on the petitioner. However, Stanley and Girth found that creditors object to exemption allowances in only .5 percent of the cases in their 1964 study of personal bankruptcy.[11]

An alternative explanation that is consistent with our hypothesis is that the high exemption levels allowed in some states enabled consumers with large amounts of assets to elect to take bankruptcy with little expected loss of assets. Thus, in states with high exemptions, relatively wealthy consumers were more likely to take bankruptcy than was the case in states with less generous exemptions.

IV. Homeowners Taking Bankruptcy

As an additional test of our hypothesis that consumers with large amounts of wealth are more likely to declare bankruptcy in states that provide generous asset exemptions relative to states with less generous exemptions, we analyzed the variation in the incidence of homeownership and characteristics of homeowners in our sample across states grouped according to the maximum homestead exemption allowed in each state (Exhibit 3).

EXHIBIT 3

HOMEOWNERS FILING PERSONAL BANKRUPTCY

Group	State	Maximum Household Exemption	Percent of Sample who were Homeowners (A)	Average Household Equity	Percent of Homeowners with Equity > $15,000 (B)	Percent of Sample with Household Equity > $15,000 (AxB)
A	Georgia Virginia	$5,000	16%	$1,504	7.7%	1%
B	Illinois Ohio	$10,000	18%	$2,470	4.5%	1%
C	Louisiana New York Pennsylvania Wisconsin	$15,000	21%	$4,409	11.5%	2%
D	California Texas	$40,000 160 acres	19%	$16,684	53.5%	10%[1]

[1] A binomial t-test of the significance of the difference in the percentages of Groups A and D who had household equity exceeding $15,000 produced a t-statistic of -4.37 which was significant at the 90 percent level of confidence.

The percent of petitioners who were homeowners varied across the four groups, increasing as the maximum household exemption increased. However, the differences in the percentage of petitioners who were homeowners in the groups with the lowest and highest household exemptions were not significantly different.

The average household equity for each group increased with the maximum homestead equity allowed. In addition, the percent of homeowners reporting equity in excess of $15,000 was positively associated with the level of maximum homestead exemption allowed. In the group having the lowest homestead exemption, the average household equity reported was $1,504 with almost 8 percent of homeowners reporting equity in excess of $15,000. In the group having the highest homestead exemption, average equity reported was $16,684 with almost 54 percent of homeowners reporting household equity in excess of $15,000.

The figures in the last column in Exhibit 3 show that only one percent of the sample in the group of states with the lowest homestead exemption reported household equity in excess of $15,000. Ten percent of the sample in the states with the highest household exemption reported household equity in excess of $15,000. The difference in these percentages for the lowest and highest exemption groups was significant at the 90 percent level of confidence.

These data provide further evidence that high exemptions reduce the cost of bankruptcy for consumers with large accumulations of wealth. Given this lower cost of bankruptcy, consumers with significant accumulations of wealth (more than $15,000 in household equity) were more likely to take bankruptcy in states that provided generous exemptions relative to states that were more restrictive.

V. Within State Comparison of Petitioners Choosing Federal Versus State Exemptions

In Texas petitioners were free to choose to file under the state or the federal exemption. There was an approximately even split among petitioners in that state who chose the federal versus state exemptions. There were 44 petitioners who selected the federal exemptions and 55 who selected the state exemptions. The homestead exemption provided by the state statute in Texas specifies that up to 160 acres of property and improvements to that property were exempt. Thus, depending on the value of property, the state statute in Texas is considerably more generous than the federal statute which allowed $7,500 of household equity to be exempted per debtor.

We analyzed the mean financial characteristics of petitioners in Texas grouped by their choice of exemption statute to determine whether the previous relationship found between exemption levels and petitioners' financial characteristics was possibly attributable to differences in economic characteristics of the high- and low-exemption states. By performing the analysis with data from within one state, we held constant the economic conditions related to the state.

The means of selected financial characteristics of the two groups of petitioners in Texas are shown in Exhibit 4. The data reflect the fact that the state exemptions in Texas could be very generous relative to the federal exemptions at the time of the study. Petitioners filing under the state exemption had significantly more valuable assets on average and significantly more valuable real property than petitioners filing under the federal statute. Those filing under the state statute were significantly more likely to be homeowners than those filing under

EXHIBIT 4

PETITIONERS IN THE STATE OF TEXAS

	Federal Exemption	State Exemption
Number of cases	44	55
Before-tax family income	$14,379	$16,696
Percent homeowners	27.27%**	47.27%**
Value of real property	$31,450**	$46,986**
Equity in principal residence	$8,792**	$21,508**
Total assets	$18,225**	$31,212**
Total exemptions	$9,906**	$27,298**
Total assets/total debts	62%**	102%**
Percent with negative net worth before bankruptcy	27.8%**	9.1%**
Debt excluding mortgage/income	214%	276%

**Significantly different at 90 percent level of confidence.

the federal statute (47 percent vs. 27 percent). Those filing under the state statute appeared to be in a much stronger financial position relative to those filing under the federal statute--the mean ratio of total assets to total debts showed that, on average, petitioners under the state statute were solvent with assets equal to 102 percent of total debts. In contrast, those filing under the federal statute were insolvent on average with assets equal to 62 percent of total debt. Almost three out of every ten of those filing in Texas under the federal exemption definition had a negative net worth at the time of filing while only one out of every ten of those filing under the state statute had negative net worth. The difference in these proportions was significant. Those filing under the state exemption had more nonmortgage debt relative to income than the petitioners filing under the federal statute. However, the difference was not significant.

From this analysis, we conclude that the level of exemptions does influence a consumer's decision to take bankruptcy. Homeowners taking bankruptcy in Texas were significantly more likely to choose the state exemption definition that allowed them to keep more household equity than the federal statute does. Those homeowners who chose the state exemption level owned real property that was significantly more valuable then that owned by petitioners choosing the federal exemption. They had significantly more assets and had exemptions that protected a greater percentage of their assets than those choosing the federal exemption. They had accumulated more nonmortgage debt relative to income than the petitioners choosing the federal exemption, but the difference was not significant. Finally, although they had more nonmortgage debt, on average

they owned more valuable real property and had significantly more equity in their personal residence than those filing under the more restrictive federal exemption level ($21,508 vs. $8,792). Consequently, their average financial picture was stronger. This was evident in the fact that those filing under the state exemption were more likely to be solvent at the time of filing with assets exceeding debts while those filing under the federal exemption definition were more likely to have assets valued considerably less than total debts.

VI. Conclusions

In contrast to previous studies of the impact of the level of exemptions from bankruptcy estate, this study analyzed the interstate variation in financial characteristics of petitioners for bankruptcy rather than interstate variation in the rate of bankruptcy. The hypothesis examined in this study relates to the relationship between the asset exemptions allowed in a state and the probability of bankruptcy among wealthy consumers. There currently is no legal definition of a need threshold for personal bankruptcy.[12] Consequently, the level of allowed exemptions provided by the law that prevails in a state establishes a standard by which consumers determine, in part, whether it is economically rational to file bankruptcy, given their particular personal balance sheet. The data generally support the hypothesis that consumers who have accumulated large amounts of wealth are more likely to take bankruptcy in states with liberal asset exemptions relative to states with restrictive asset exemptions.

FOOTNOTES

[1]See A. Charlene Sullivan, Causes, Costs and Benefits of Personal Bankruptcy, Monograph 24, Credit Research Center, Purdue University, 1982 for estimates of the costs of personal bankruptcy for a sample of consumers.

[2]David T. Stanley and Marjorie Girth, Bankruptcy: Problem, Process, Reform, (Washington, D.C., Brookings Institution, 1971), p. 82.

[3]Vincent P. Apilado, Joel J. Dauten, and Douglas E. Smith, "Personal Bankruptcy," Journal of Legal Studies, 7 (1978) p. 379.

[4]Ibid., p. 380

[5]Robert Ferber and Lucy Chao Lu, "Asset Accumulation in Early Married Life," Journal of Finance, 35 (1980) pp. 1173-1188.

[6]See 11 U.S.C.A. Section 522(d).

[7]For a complete description of the study, see R. W. Johnson, R. L. Peterson, and Blair Shick, Consumers' Right to Bankruptcy: Origins and Effects, Monograph 23, Credit Research Center, Purdue University, 1982.

[8]U.S. Department of Labor, Bureau of Labor Statistics, Autumn 1979 Urban Family Budgets and Comparative Indexes for Selected Urban Areas, Washington, D.C. April 30, 1980, Table 4.

[9]Ferber and Lu, op. cit., p. 1187.

[10]Thomas A. Durkin and Gregory Elliehausen, 1977 Consumer Credit Survey, Washington, D.C.: Federal Reserve Board of Governors, 1978.

[11]Stanley and Girth, op. cit., p. 83.

[12]Proposals for establishing a formal needs threshold were being considered by Congressional Committees in 1982 (S2060, H.R. 7786).

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WORKING PAPER NO. 45

The Role of Education Debt in Consumers' Total Debt Structure

1983

Krannert Graduate School of Management – Purdue University

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THE ROLE OF EDUCATION DEBT IN CONSUMERS' TOTAL DEBT STRUCTURE

Robert W. Johnson* and A. Charlene Sullivan**

Abstract

This study was commissioned by the National Commission on Student Financial Assistance to examine the implications of students' borrowing to finance higher education for their post-education debt capacity. Analysis of this question is based upon historical data and projections of the future impact of student borrowing, given trends in college borrowing behavior and starting salaries of college graduates.

In spite of official limits on students' cumulative borrowing capacity in the Guaranteed Student Loan (GSL) program, there is a high level of concern about the economic effects of borrowing to finance a college education. Previous studies have analyzed student loan data to evaluate the manageability of that debt burden in light of various definitions of manageability. In this study, we measured restrictions placed on the use of consumer debt by credit grantors and by consumers themselves to determine whether cumulative student loan debt may be high enough to cause some graduates to be temporarily rationed in other credit markets.

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This paper was originally prepared for submission to the National Commission on Student Financial Assistance. The support of the Commission is gratefully acknowledged. The authors also wish to acknowledge the assistance of Margaret Woo, research assistant, Credit Research Center, for her assistance in compiling the data used in the study.

Our analysis shows that, given historic patterns of student debt use (GSL), only those students who borrow the maximum amount allowed and enter professions that provide very low starting salaries may find themselves credit rationed. Given the vast diversity of suppliers in the consumer credit market, even those graduates are not likely to be perfectly rationed. In fact, they are likely to be able to obtain sales credit to acquire durable goods. Their ability to acquire mortgage credit may be limited, because limits imposed by mortgage lenders are somewhat more restrictive than those imposed by consumer credit grantors.

Further assessment of the future suggests that debt burdens of graduates, on average, will be heavier than in earlier years. However, unless creditors become more conservative in their assessment of a manageable level of debts, few college graduates will be restricted from credit markets because of their student loan obligations.

The major conclusions of the study are:

1. There are limits set on the aggregate amounts of debts that consumers may assume. The most uniform are those set regarding residential mortgages. A number of commercial bankers establish aggregate limits on consumer debts, but they vary widely. Other creditors are even less exacting, in part because the information system does not provide sufficient data to assess credit risk with great accuracy. Consumers also voluntarily limit their use of debt, often at lower levels than would be permitted by credit grantors. Thus, many have unused debt capacity from the point of view of their creditors. Other consumers can and do obtain large amounts of debt relative to income. Except in a few cases, it appears unlikely that educational debt may

shoulder aside other forms of credit to the detriment of automobile sales or homebuilding.

2. At the margin, consumers most likely to be affected by debt limits are those who plan to enter the poorly-paid vocations, such as nursing or elementary teaching. Since students in these fields may self-impose debt limits and hamper their education, it may be preferable to design a grant program to support their education.

3. Because of the fairly rigid, and low, limits on debt placed by mortgage lenders, some consumers may find it necessary to postpone acquiring a home, or may need to settle for a smaller home than they might wish. But, since other forms of credit must share the responsibility for pushing those borrowers to the debt limit, it is not appropriate to focus on student loans as the "cause" of any decline in residential construction. We have suggested that, even without student loans, there may be other reasons for the problems of the residential construction industry.

4. If the trends in educational costs are projected into the late 1980s, we anticipate an increase in the average size of student loan following graduation than prevailed in the early part of the decade. This inflation in educational costs, coupled with the differences in costs of public and private schools, suggests a need to index the maximum allowable student loan to educational costs to avoid disadvantaging private schools relative to public schools.

5. Finally, if we couple the increased size of educational loan with the anticipated changes in the credit culture, we expect to see a lowering of aggregate credit limits and greater shouldering aside of

other forms of credit. So long as the government does not make an effort to allocate credit and leaves the choice to consumers, our survey data suggest that loans to finance education will be preferred by consumers to loans to finance purchases that might be classed by some as luxuries.

TABLE OF CONTENTS

	Page
I. Market debt limits	3
A. Commercial bank guidelines	4
B. Guidelines of other lenders	7
II. Self-imposed debt limits	11
A. Total monthly debt payment to monthly pretax income	13
B. Total debt to pretax income	15
III. Patterns of accumulated borrowing and expected income for college graduates	22
IV. Future trends in college debt burden	32
V. Implications for the future	39
A. Future debt burdens based on past data and present credit culture	39
B. Future debt burdens based on potential changes in the credit culture	44
1. Changes in limits on aggregate debt	44
2. Income in average size of educational loans	46
VI. Conclusions	47

LIST OF EXHIBITS

Exhibit Number	Title	Page
1	Consumer Debt Limits Specified by Commercial Banks. .	6
2	Self-Imposed Debt Limits, 1977.	14
3	Self-Imposed Debt Limits, 1979.	16
4	Total Debt to Disposable Personal Income.	18
5	Total Debt as a Percentage of Before-Tax Income . . .	19
6	Type and Number of Creditors.	21
7	Loan Repayment Status by Size of Cumulative Loan Amount	24
8	Annual Earnings for Selected Professions.	25
9	Cumulative Debt and Repayment Schedule.	28
10	Monthly Debt Payments as a Percentage of Monthly Pretax Income: Ten-Year Repayment Period, Nine Percent Interest.	29
11	Monthly Debt Payments as a Percentage of Monthly Pretax Income: Five-Year Repayment Period, Nine Percent Interest.	30
12	Annual College Costs.	34
13	Median Borrowing (Four Years of College).	35
14	Projected Debt Burden	37
15	Median Debt Payment as a Percentage	38
16	Attitudes Towards Instalment Debt Use	42

THE ROLE OF EDUCATION DEBT IN CONSUMERS' TOTAL DEBT STRUCTURE

Robert W. Johnson and A. Charlene Sullivan

From the inception of the Guaranteed Student Loan Program in 1965 to the 1980-81 school year, 18 million loans had been issued totalling nearly $30 billion.[1] The program was designed to provide low-and middle-income students with a source of funds for post-secondary education, although the eligibility definition for the program has been altered periodically. A major concern of those administering the program is the burden of education debt accumulated during college years and the ramifications of that burden on consumption patterns in post-graduation years. Additionally, attention is frequently focused on the question of students' excess use of education debt and the consequent probability of default in post-education years. To control the extent to which students could overburden themselves with debt, official limits both in terms of the annual amount extended and the cumulative amount of credit that can be obtained have been established.

In spite of such controls, there remains a concern about the economic effects of the burden created by the practice of borrowing to finance a college education. This is especially true in light of the narrowing spread between salaries earned by college graduates and those of consumers without a post-secondary degree. A previous study of debt burdens created by students who borrowed to finance professional degrees concluded that "assuming the conventional 10-year repayment period with equal monthly instalments, about 46 percent of the arts and science borrowers had unmanageable, or burdensome, loans compared to 86 percent of the law students and 83 percent of the medical students."[2]

This study analyzes the debt burden created by student loans in the light of limits placed on the use of credit by lenders and by consumers themselves. The purpose of the analysis is to evaluate the extent to which an individual's total debt capacity is absorbed at the point of graduation and, consequently, the degree to which the graduate will be rationed by credit markets or by personal choice. This rationing has economic implications for the economy in terms of consumption behavior of college graduates.

To analyze the impact of student loans on post-graduate debt capacity and consumption, we surveyed creditors and consumers to determine credit limits as they are established by the marketplace and by consumers themselves. We also reviewed data revealing the debt-use patterns of consumers who filed for personal bankruptcy. These data are useful in evaluating the extreme limit on debt use--the point where the household becomes financially insolvent.

The paper is organized in six sections. In the first section, debt limits established by the marketplace are reviewed. In the second section, self-imposed debt limits as revealed by actual consumer debt-use patterns are analyzed. The debt-use patterns of consumers in bankruptcy are also examined in this section. In Section III data concerning levels of cumulative student borrowing and starting salaries in various professions in 1981 are summarized. With these data, we analyze the proportion of the debt capacity that will have been absorbed by student borrowing, given various measures of debt capacity. In the fourth section, data concerning college costs, borrowing patterns, starting salaries and debt burdens are projected to 1988. In the fifth section a discussion of the

implications of borrowing for post-secondary education and consequent consumption patterns of college graduates are presented. The final section contains a summary of conclusions drawn from the analysis.

I. Market Debt Limits

There is little theory concerning the optimal use of debt by consumers. Household debt-use patterns have been related empirically to the life cycle, with consumers in the family-formation stages using the most debt, holding other things constant. Cross-sectional variation in the use of debt may also be explained by the uncertainty of future income of the household, personal preferences related to the perceived risk of borrowing and to rationing by the marketplace. Time series variation in debt-use patterns for the population in general may be explained by limits on the supply of credit.

Credit grantors estimate the probability of default for a household by considering both the household's ability and willingness to repay the debt. Ability to repay is best evaluated by analyzing the household's cash flows and the relationship between stable income and fixed obligations, including debt payments. Willingness to repay is a behavioral dimension of the consumer which may best be evaluated by credit history, although regulation of loan contract provisions may change the costs and benefits of default and, thereby reduce the predictive value of that information.

The lending decision involves the evaluation of the risk of default of the individual borrower and subsequent adjustments of loan terms to reach an equilibrium point where the contract provides the appropriate expected return to compensate the suppliers of capital for incurring

the risk of the contract. Given imperfections in the information market, and externalities that limit the flexibility of loan terms, lenders may not attempt to price each contract according to the borrower's unique characteristics. Instead, many lenders establish a "house rate" and define general standards of credit worthiness that all acceptable applicants must satisfy. The standards could be operationalized in the design of a credit scoring system or they could be stated in terms of a specific relationship between total debt and income or periodic loan payments and periodic income. If such standards were used universally by all lenders, consumers would be rationed from the credit market when they no longer satisfied the acceptance criteria.

A. Commercial Bank Guidelines

To ascertain whether lenders used strict debt limits and how the limits were stated in terms of a debt-to-income or loan payments-to-income ratio, we surveyed commercial banks that belonged to the Consumer Banker's Association (CBA), an association of retail banks. This sample was selected to be surveyed because commercial banks have historically provided more than half of total consumer credit extended at any point in time. A mail questionnaire (see Appendix A) was sent to each of the 383 member banks of CBA. A total of 144 responses were received for an excellent overall response rate of 37.8 percent. Respondents were requested to indicate whether they "follow a guideline(s) limiting the total amount of consumer and mortgage debt from all sources, including the loan being requested, that an acceptable applicant for a loan may have?" If the response was affirmative, the respondent was asked to specify how the debt limit was measured and to specify the maximum generally permitted.

Three-fourths of respondents did specify a guideline that limited the total amount of debt a consumer could have relative to income and still be an acceptable loan applicant. Respondents in many cases specified a general limit but indicated that the actual limit varied with type of loan or income level. The measures used along with the minimum, maximum and modal percentage responses are shown in Exhibit 1.

The bulk of respondents specified only one measure although several used multiple limits. Most of the respondents specified a cash flow measure (monthly payments to monthly income) rather than a measure of aggregate debt to income. More than one-third of those who specified a guideline selected the ratio of total monthly debt payments (including consumer and mortgage debt) to monthly pretax income. The maximums permitted for this group ranged from 30 percent to 60 percent, with a modal response of 40 percent.

The next most frequently specified guideline (selected by 19.8 percent of the sample) was a measure of total monthly fixed expenses relative to after-tax monthly income. The maximum for that measure ranged from 20 percent to 80 percent with a modal response of 50 percent. The ratio of total consumer and mortgage debt to annual after-tax income was also selected by 19.8 percent of the sample. The maximums for that ratio ranged from 30 percent to 80 percent with a modal response of 40 percent.

From the results of the survey, it is clear that there is a great deal of diversity across banks both in terms of the specification of debt limit and the absolute value of the maximum. Although all banks currently did not use such guidelines in their credit evaluation process, one would expect that the use of such limits will become more widespread in light of current bankruptcy legislation.

EXHIBIT 1

CONSUMER DEBT LIMITS SPECIFIED BY COMMERCIAL BANKS

Measure	Number Using	Percent Using*	Minimum	Maximum	Mode
Total consumer and mortgage debt/ annual pretax income	9	8.5	34%	60%	35%
Total consumer and mortgage debt/ annual after-tax income	21	19.8	28	80	40
Total monthly payments on consumer and mortgage debt/pretax monthly income	39	36.7	28	60	40
Total monthly payments on consumer instalment and revolving credit/ monthly pretax income	15	14.2	15	40	35
Total monthly payments on consumer and mortgage debt, property tax, insurance and utilities/monthly pretax income	14	13.2	33	40	35, 40
Total monthly payments on consumer and mortgage debt, property tax, insurance and utilities/monthly after-tax income	21	19.8	20	80	50
Total monthly payments on consumer and mortgage debt, property tax and insurance/total after-tax monthly income	5	4.7	15	45	--
Total monthly payments on mortgage and consumer debt/after-tax monthly income	4	3.8	35	50	50
Monthly housing expense/gross monthly income	1	1.0	28	28	28

*Multiple responses were permitted

B. Guidelines of Other Lenders

Consumers are likely to buy a first home upon completion of post-secondary education. In that case, limits set on the use of debt by mortgage lenders are important in the evaluation of debt capacity. Federal National Mortgage Association (FNMA), a private organization that makes a secondary market for conventional home mortgages, specifies guidelines on the use of credit by mortgagors. These guidelines are stated in terms of monthly housing expenses and total monthly obligations relative to stable monthly income of the borrower. The precise wording of the limit imposed by FNMA follows:

> In regard to single-family properties, FNMA considers the monthly housing expense to be the sum of the monthly principal and interest payments on the mortgage, hazard insurance premium, real estate taxes, and, if applicable, mortgage insurance premium, homeowners association dues (excluding unit utility charges), ground rents (lease-hold payments) and subordinate financing, if applicable. Utility charges are not included in the housing expense since such charges vary because of differences in utility rates, family size and living style; however, the underwriter must consider the impact that utility charges and potentially rapid increases in other housing expenses, such as hazard insurance premiums and real estate taxes will have on the ability of the borrower to meet the monthly housing expense and maintain the property. Consideration must be given to the energy efficiency of the property, especially energy-efficient items which will reduce the energy cost of the property, thus permitting a greater portion of the borrower's income to be applied to housing expenses. Generally the monthly housing expense should not exceed a range of 25-28% of the stable monthly income of the borrower.
>
> FNMA considers total monthly obligations to be the sum of the monthly housing expense, payment on installment debt which has more than 10 remaining payments, and alimony, child support or maintenance payments. Generally the total of all monthly obligations should not exceed a range of 33-36% of the stable monthly income of the borrower.
>
> Higher payment-to-income ratios may be justified by other considerations such as:
>
> (1) energy efficiency of the property or energy efficient items;
>
> (2) demonstrated ability of the borrower to devote a greater portion of income to basic needs, such as housing expense;

(3) demonstrated ability of the borrower to maintain a good credit history, accumulate savings, and maintain a debt-free position;

(4) a large down payment on the purchase of the property;

(5) potential for increased earnings of the borrower as indicated by education or job training relative to the time employed or practicing in his/her profession;

(6) borrower's net worth substantial enough to evidence an ability to repay the mortgage;

An alternative secondary market for mortgages is that provided by Federal Home Loan Mortgage Corporation (FHLMC). The debt limits specified by FHLMC are the same as those established by FNMA.

The Department of Housing and Urban Development, which oversees the FHA-subsidized mortgage loan programs specifies (italics supplied):

> The mortgagor's income will be considered adequate if the total prospective housing expense does not exceed 35 percent of the mortgagor's net effective income, and if the total of the prospective housing expense and other recurring charges do not exceed 50 percent of the mortgagor's net effective income.
>
> In addition, this provision authorizes the consideration of favorable compensating factors to justify exceeding these limits in some cases.
>
> Because of current economic conditions, we believe many homeowners are compelled to pay a much larger portion of their incomes for housing expenses. Therefore, we have instructed our field offices to consider such favorable compensating factors as the reduction in IRS tax liability due to homeownership, past savings accumulated at a rate comparable to the increase in housing expense, and any other factors that indicate the borrower is, in fact, capable of substantially exceeding these net effective income ratios in paying for monthly shelter costs. In view of the President's directive to assure the maximum opportunity for families to purchase a home, we have instructed our field offices further that they may utilize modestly higher net effective income ratio guidelines for such borrowers, in the amounts of 38 and 53 percent respectively. This will accommodate the currently more severe economic conditions. Within this framework and where circumstances warrant, we have also authorized use of the Veterans Administration's "residual income" approach to determine the sufficiency of the borrower's income. Moreover, mortgagees may determine in some instances that even greater contributions by the borrower than would be justifiable under the 38/53 guidelines approach are allowable if the compensating factors of a given case support such a determination.

Mortgage lenders who are considering an application for an FHA/VA mortgage establish their own standards for an acceptable relationship between fixed expenses and income. One lender indicated that for FHA loan applicants, the maximum ratio allowed for housing expenses including utilities relative to income ranged between 25-33 percent. For VA loan applicants, the maximum was 33 percent.

The conclusion that can be drawn from this section of the study is that many retail banks and mortgage lenders do specify limits on consumers' use of credit. However, the limits applicable to consumer loan applicants vary considerably across lenders, and a fourth of commercial banks responding to the questionnaire do not follow such guidelines. The limits pertaining to mortgage loan applicants for government-guaranteed mortgages are dictated by administrators of various programs and are likely to show little variation across lenders.

Commercial banks are very important suppliers of consumer credit but there are many other lenders in that market. If it could be argued that commercial banks serve the low-risk segment of the consumer market, we would suggest that, other than consumers' self-imposed guidelines, the maximums specified by banks and mortgage lenders are the most binding restrictions that would be found by a person shopping for credit. A recent study of risk segmentation in the consumer credit market found that the market for unsecured personal loans was segmented by risk when various types of lenders serving that market operated under different loan rate ceilings.[3] Banks served consumers who were classified as low-risk consumers and finance companies served the high-risk segment of the consumer population. In the alternative scenario where both types of lenders operated under the same rate ceiling, there was not a significant

difference in the risk characteristics of a sample of borrowers with loans from one or the other type of lender. Consequently, the extent to which lending limits specified by banks would be expected to be the most restrictive is a function of the legal environment in one's state of residence. With recent relaxation of usury ceilings in many states, the loan limits specified by our sample of banks are probably representative of the general limits placed on consumers shopping for unsecured credit at financial institutions.

Generally, debt limits are more strict for unsecured loans than for secured loans, holding other things constant. With an unsecured loan, the lender simply receives a promise of repayment out of the borrower's future income. With a secured loan contract, the lender's expected loss is limited to the excess of the loan value over the market value of collateral at the time of default. Although the secured lender is not indifferent to the condition of the borrower's cash flow relative to fixed obligations, the risk of a secured loan is not wholly dependent on the characteristics of the borrower. Rather, it is a function of the relationship between loan balance and collateral value throughout the term of the loan. Consequently, graduates who are restricted by the market in terms of their use of credit after graduation will be likely to encounter constraints on the use of unsecured credit (revolving credit, cash credit), but will be able to obtain secured credit for vehicles, home appliances, etc.

II. Self-Imposed Debt Limits

In spite of abundant literature on debt limits for business firms, there is little extant theory about the optimal use of debt by households. And, as is apparent from the results of the lender survey, the market does not set strict limitations on consumers' ability to borrow. As a consequence, one might conclude that debt-use patterns are largely determined by individual preferences and that self-imposed debt limits may be a better indicator of the effect of education debt on the future use of debt by graduates. Survey data from two surveys, a national survey of households performed in 1977 and a household survey performed in a four state area in 1979, were used to evaluate patterns in self-imposed debt limits. Data for respondents in the 25-35 year age bracket were analyzed because (1) this life-cycle group was expected to use the most debt and, (2) this age group was most like new graduates of professional education programs where the greatest use of education debt is found.

We chose to concentrate on the burden of education loans relative to income with 1981 as the initial period in the study because that was the latest year for which education loan data were available. Although the survey data are not current (1981) there is no evident reason to believe that the debt-use patterns found during the time period covered by the surveys should not be representative of debt-use patterns that would be observed in 1981. Aggregate debt payments on consumer and mortgage credit relative to disposable income increased steadily from 1950 to 1970, but there has been little trend in that statistic in the post-1970 period. Aggregate statistics on the ratio of consumer instalment debt payments relative to disposable income showed a decline from 16 percent

to 15 percent from 1977 to 1981. However, during that same period, mortgage debt payments as a percent of disposable income increased from 4.76 percent to 5.13 percent. Consequently, aggregate statistics reveal a relatively stable relationship between total debt payments and disposable, personal income over the period from 1977 to 1981.

The percentage of families with no consumer debt was also fairly stable in the last decade (51 percent in 1970; 49.7 percent in 1977).[4]

> However, the amounts owed by credit users had increased. Between 1970 and 1977, median debt of those with debt approximately doubled, a substantially greater increase than the 56 percent growth in the consumer price index during the same period. Much of the rise in median debt undoubtedly can be explained by the inflated prices of good bought on credit. However, since debt has expanded more rapidly than prices, it appears that consumers have been willing or able to incur more debt."[5]

Consumers in the higher income brackets (greater than $15,000) were more likely to have debt in 1977 than they were in 1970. Coupled with the trend toward extended repayment periods, the greater use of debt by upper-income consumers would explain the fact that, although the amount of credit owed had increased, the debt burden, as measured by monthly debt payments to monthly income, did not increase substantially from 1970 to 1977.

In the following section, we identify self-imposed debt limits by analyzing the distributions of the ratios of total monthly debt payments to pretax monthly income and total debt relative to pretax income. These two ratios were the only ones for which sufficient data from the consumer surveys were available. In addition, these two ratios compare directly with measures most frequently used by lenders.

A. Total Monthly Debt Payment to Monthly Pretax Income

The ratio of monthly consumer and mortgage debt payments to income is frequently referred to as an indicator of consumer liquidity. Since 1970 the ratio has ranged between 20 and 22 percent for the total population. In the 1977 data the average of the ratio of total monthly debt payments including mortgage payment, rent payment, and payments on credit cards and instalment debts to pretax monthly income for respondents in the 25-35 year age bracket was 40.57 percent (Exhibit 2). (To calculate the ratio, monthly payments on credit card balances were assumed to be the minimum monthly payment unless the respondent specified that he or she always paid the balance. In that case, the monthly payment was equal to the outstanding balance.) The ratio for about 84 percent of the group was less than or equal to the modal maximum of the ratio as determined in the lender survey. Thus, a large portion of consumers' self-imposed debt limits were stricter than the limits set by lenders. The rest of the sample had monthly debt payments to pretax income that exceeded 40 percent. About three percent of the sample appeared to be in grave financial trouble with monthly debt repayment obligations in excess of monthly before-tax income.

Given the inclusion of rent payments in the numerator for those respondents who do not own their home, it is not unusual that only about 3 percent of the sample had a zero value for the ratio of payments to income. However, about 20 percent of those respondents in the 25-35 age bracket had no mortgage debt or consumer debt at the time of the survey. These data appear reasonable in light of other information on debt-use patterns. About 50 percent of all respondents to the survey had no instalment credit obligations at the time of the survey in 1977. In

EXHIBIT 2

SELF-IMPOSED DEBT LIMITS, 1977[a]

(Respondents in 25-35 age bracket)

N = 638

	Ratios	
	Monthly Consumer & Mortgage Debt Payments/Monthly Pretax Income	Total Consumer & Mortgage Debt/Annual Before Tax Income
0 %	2.9%	18.8%
1 - 20	37.6	22.1
21 - 40	42.3	7.8
41 - 60	9.5	4.7
61 - 80	4.4	6.0
81 - 100	.8	7.8
> 100	2.5	32.8
Total	100.0%	100.0%
Mean	40.57%	

SOURCE: Durkin and Elliehausen, 1977 Consumer Credit Survey.

[a]Based on a national survey of 2,563 households performed in 1977 by Survey Research Center for the Federal Reserve Board of Governors.

addition, about 40 percent of the total sample did not use any type of credit card in 1977.

The survey data collected in 1979 showed a significant difference from the 1977 data in the ratio of monthly debt payments to monthly income (Exhibit 3). The average ratio for this sample was almost 30 percent. Almost 40 percent of both samples had debt payments that represented 21-40 percent of before-tax income. And, approximately 83 percent of both samples had a ratio of debt payments to income that was less than the 40 percent modal limit set by our respondent commercial banks.

The differences in the average ratios for the two samples do not necessarily reflect a trend in debt-use patterns of consumers in the 25-35 age bracket. The sample designs for the two studies were considerably different. Regardless of the differences, the results of both surveys are presented primarily to show the diversity of debt-use pattern and to show that many consumers used less debt than would be available according to limits set by lenders of consumer loans but that a significant percentage of consumers (about 15 percent) were able to acquire very large amounts of debt.

B. Total Debt to Pretax Income

The ratio of total debt outstanding to annual pretax income gives a rough indication of a payout period for debt. Since 1970, aggregate data (Exhibit 4) show that ratio increasing from 62.5 percent to 74.9 percent in 1981. This trend can be attributed to the rapid increase in housing costs relative to income over the same period.

EXHIBIT 3

SELF-IMPOSED DEBT LIMITS, 1979[a]

(Respondents in 25-35 age bracket)

N = 944

	Ratios	
	Monthly Consumer & Mortgage Debt Payments/Monthly Pretax Income	Total Consumer & Mortgage Debt/Annual Before Tax Income
0 %	1.2%	20.7%
1 - 20	42.0	23.3
21 - 40	39.8	10.1
41 - 60	8.3	7.0
61 - 80	3.1	8.1
81 - 100	2.1	7.2
> 100	3.5	23.6
Total	100.0%	100.0%
Mean	30.0%	

SOURCE: Credit Research Center, 1979 CRC Consumer Credit Survey.

[a]Based on a survey of 3,572 consumers in four local markets in Arkansas, Illinois, Louisiana, and Wisconsin in 1979 by the Credit Research Center, Purdue University under a grant from the National Science Foundation.

The distributions of this ratio from the consumer surveys are shown in Exhibits 2 and 3. An interesting characteristic of the distribution is that a significant portion of the sample used no debt at the time of the survey. About 20 percent of respondents in the 25-35 year age bracket had no consumer or mortgage debt in 1977 and 1979. In contrast, about 36 percent of the samples in general had no debt outstanding, a fact that is indicative of the importance of debt to families in the early family-formation stage of the life cycle--the group represented here. About 25 percent of both samples had total debts that exceeded total annual before-tax income, a probable characteristic of middle-income families with mortgages. Contrast those figures with the modal maximum for that ratio from the lender survey of 35 percent. Less than ten percent of lenders who followed a guideline used that particular one. The modal value of the total debt to after-tax income (used by 19.8 percent of the sample) was only 40 percent. Thus, it appears that self-imposed limits on total debt use relative to pretax income are somewhat less restrictive than those imposed by banks in the marketplace. This result is to be expected, given the heavy demand for credit by consumers in this age bracket.

The self-imposed debt limits show that a sizeable number of consumers had not restricted their use of credit to an extent comparable with limits imposed by some commercial banks. Given the multiplicity of competitors in the consumer credit marketplace, this is not an unlikely event. However, one must question the extent to which one's debt burden can be safely expanded. To evaluate the extremes of self-imposed limits we analyzed the use of debt by persons filing for

EXHIBIT 4

TOTAL DEBT TO DISPOSABLE PERSONAL INCOME

	Percentage
1970	62.5
1971	63.7
1972	66.9
1973	67.1
1974	65.8
1975	64.3
1976	66.7
1977	71.4
1978	77.7
1979	79.3
1980	76.6
1981	74.9

SOURCE: Board of Governors of the Federal Reserve System.

bankruptcy in 1981. (Exhibit 5) Most petitioners for bankruptcy were young (less than 44 years old) and thus are generally included in the age group being analyzed in this study. Almost half of the sample of persons who filed for bankruptcy had total debt outstandings that exceeded annual income. It is noteworthy that only about one-fourth of the petitioners for bankruptcy were homeowners.

These data indicate that all persons who filed for bankruptcy relief from their debts did not have extreme debt burdens relative to consumers in the 25-35 age brackets. But more importantly, the data show that huge amounts of consumer credit can be obtained, even though some lenders place restrictions on consumers' use of credit. In Exhibit 6, the various sources of consumer credit used by a sample of consumers filing for bankruptcy are shown. As the burden of consumer debt increases, it is apparent that consumers are forced to use more credit from marginal credit suppliers like retailers, dealers, friends and medical sources. These lenders may be less likely than commercial banks to perform an extensive credit investigation or to place severe limits on the consumer's use of credit.

Consumers limit their own use of credit to levels generally below maximum levels established by the marketplace. However, the limits established by the marketplace are not universally enforced. The major implication of this finding in our analysis of student borrowing is that the limits placed by suppliers of consumer and mortgage credit are likely to have an insignificant effect on the consumption behavior of college graduates, unless they freely choose to restrict their own use of credit because of the burden of education debts. Further analysis is required

EXHIBIT 5

TOTAL DEBT AS A PERCENTAGE OF

BEFORE-TAX INCOME

	Bankruptcy Sample*
0 %	0
1 - 20	1.7
21 - 40	5.3
41 - 60	10.3
61 - 80	13.5
81 - 100	9.6
> 100	59.6
	100.0%

*67 percent of this sample was below the age of 44. Based on a survey of 1,199 consumers in ten states who filed a straight (Chapter 7) bankruptcy.

EXHIBIT 6

TYPE AND NUMBER OF CREDITORS

(AVERAGE)

	Total Consumer Debt/ Pretax Family Income							
	<50%		50-74%		75-100%		>100%	
	% Had Debt*	Average #	% Had Debt	Average #	% Had Debt	Average #	% Had Debt	Average #
Banks	(51)	1.78	(50)	2.09	(63)	1.92	(64)	2.22
S & L	(2)	1.25	(2)	1.0	(3)	1.0	(5)	1.30
Credit unions	(11)	1.21	(20)	1.17	(25)	1.15	(17)	1.33
Finance companies	(36)	1.90	(38)	1.57	(45)	1.69	(42)	1.66
Retailers	(71)	2.93	(78)	3.15	(80)	3.32	(77)	4.58
Dealers	(15)	2.22	(19)	1.93	(24)	3.23	(29)	5.44
Medical	(59)	3.73	(62)	4.35	(58)	5.82	(64)	4.79
Friends	(4)	1.44	(8)	1.44	(13)	1.47	(19)	2.19
Other	(69)	2.87	(72)	3.21	(74)	3.19	(78)	4.97
N	213		211		130		540	
Average income	$11,461		$12,317		$12,594		$9,008	

*Percent who had debt from this particular type of creditor.

SOURCE: Credit Research Center, Purdue University, Consumer Bankruptcy Study.

however, to ascertain the extent to which student borrowing does absorb debt capacity as defined by the credit market or by consumers' themselves for the average college graduate.

III. Patterns of Accumulated Borrowing and Expected Income for College Graduates

There are multiple sources of education loans, although the National Direct Student Loan Program (NDSL) and the Guaranteed Student Loan program (GSL) are the major ones. Other sources are state and college loan programs and regular bank loans. Although a student may borrow funds from several different programs to finance a year of college, in the following analysis we are concerned with only the burden created by GSL borrowing. Consequently, the actual debt burden of students may be somewhat understated in our analysis.

Students are limited in their ability to borrow from government-sponsored programs to finance their college education. The Guaranteed Student Loan program specifies a $12,500 maximum cumulative debt for undergraduates and $25,000 for a student who borrows for both an undergraduate and advanced degree. Statistics on cumulative education debt reveal that the average size of loan when GSL loans go into repayment is $2,560.[6] An independent study showed that in 1977 the median cumulative debt level of students going into repayment was $2,700.[7] If these numbers are inflated to reflect changes in the Consumer Price Index (CPI) between 1977 and 1981, the median cumulative debt when a loan went into repayment in 1981 was $3,800.[8]

The ETS study of graduate student borrowing in 1980-81 found the following cumulative levels of indebtedness for students completing various advanced degree programs:[9]

Medical (private school)	$31,000
Medical (public school)	21,000
Business (private school)	11,500
Law (private school)	14,000
Law (public school)	10,400
Business (public school)	6,500
Arts & Sciences (private school)	7,350
Arts & Sciences (public school)	6,030
Other (private school)	16,000
Other (public school)	10,000

These data indicate that cumulative student borrowing was usually less than $3,000 at the point of graduation in 1981 for most students, but the total amount borrowed was much higher for some, especially for people in graduate and professional degree programs. Data in Exhibit 7 show that for a sample of GSL loans that were processed by state guarantee agencies, 77 percent were less than $3,000. Less than two percent of loans represented balances exceeding $9,000.

Even with fairly lofty amounts of cumulative borrowing for education, concern about those levels of indebtedness must be conditioned on the basis of the students' anticipated income upon graduation. Data were collected to show starting salaries for new graduates with undergraduate or advanced degrees in selected occupations in 1981 (Exhibit 8). On average, students with undergraduate degrees had starting salaries that were approximately $4,000 less than starting salaries of persons with masters degrees in the same field. Average starting salaries for undergraduates ranged from about $12,000 to $23,000. Salaries for new

EXHIBIT 7

LOAN REPAYMENT STATUS BY SIZE

OF CUMULATIVE LOAN AMOUNT

Loan Size	Number	Percent
$ 1 - 1,000	533,587	19.4%
1,001 - 2,000	740,652	26.9
2,001 - 3,000	839,050	30.5
3,001 - 4,000	179,285	6.5
4,001 - 5,000	267,848	9.7
5,001 - 6,000	57,560	2.1
6,001 - 7,000	38,449	1.4
7,001 - 9,000	54,199	2.0
9,001 - 11,000	26,037	1.0
11,001 - 13,000	7,556	*
> 13,000	10,931	*
	2,755,154	100.0%

*Less than one percent

SOURCE: John B. Lee, "Study of Guaranteed Student Loan Default Rates," p. 24.

EXHIBIT 8

ANNUAL EARNINGS FOR SELECTED PROFESSIONS

1981

Position	Degree	Annual Salary 1981
Accounting	BS	$18,819
	MS	22,304
Actuarial	BS	14,637
	MS	19,140
Anthropologist	BS	14,916
	MS	18,401
Bank officer	BS	16,728
	MS	20,074
	MBA	25,092
Supervisor (blue-collar)		25,092 Average
Chemist	BS	16,401
	MS	22,193
	PhD	26,853
City Government		22,304
Dietician		15,800
Extension Agent		23,698
School Counselor	Mean	24,674
Dentist		24,183
Dietician		17,564
Technician (Engineering & Science)		14,637
Job Analyst		16,100
EEO		17,100
Engineering	BS	23,419
	MS	26,068
	PhD	33,456
Historian	BS	14,916
	MS	18,401
Lawyer	small firm	11,152
	Wall Street firm	40,426
	Private industry	25,092
Librarian	MS	16,580
Marketing Research	BS	19,516
	MS	25,092
Math	BS	20,631
	MS	23,698
	PhD	31,365
Physical Therapist		17,000
Teacher	BS	13,000
Social Worker	BS	12,000

EXHIBIT 8--continued

ANNUAL EARNINGS FOR SELECTED PROFESSIONS

1981

Position	Degree	Annual Salary 1981
Political Science	BS	$14,916
	MS	18,401
Programmer	BS	18,122
Nurse	BS	13,672
Teacher	BS	
	Kindergarden & Elem.	13,000
	Secondary	
Veterinarian (Gov't. employee)		21,065
Veterinarian		25,092
Physician	1981 in residency	17,000
	VA (after residency)	51,500
	Avg.	74,500

Assuming that salaries on average move with the Consumer Price Index the appropriate level of salary for 1981 is 139.4 percent of the 1978 salary and 125.3 percent of the 1979 salary (if given).

SOURCE: Occupational Outlook for College Graduates, 1980-81, U.S. Department of Labor, Bureau of Labor Statistics, December 1980, Bulletin 2076.

graduates with professional degrees ranged from $11,152 (for a lawyer in a small private practice) to $40,000 for a lawyer who becomes employed by a Wall Street law office.

To evaluate the impact of student borrowing on post-graduation debt capacity, the monthly payments for various cumulative loan amounts were calculated assuming a 10-year and a five-year repayment period at nine percent annual interest (Exhibit 9). These payments were used to calculate a measure of debt usage (monthly debt payments to monthly pretax income) at the various levels of starting monthly income that might be expected by a new graduate (Exhibit 10,11).

In view of the modal debt payments-to-monthly income ratio found in the lender survey (40 percent), it is apparent that for a 10-year repayment period, the average student debt repayment obligations do not utilize an excessive portion of the debt capacity of the average undergraduate student (assuming that the average amount of cumulative borrowing was $3,800 when the loan went into repayment in 1981). Even at the lowest monthly income level considered ($417) loan repayment obligations relative to pretax monthly income was only 12.2 percent. The lined-out area on the table isolates the income and debt categories that would be affected by a 40 percent debt limit established by lenders. This isolation section covers a larger portion of the table for a five-year repayment period.

Those students who will find a significant part of their debt capacity absorbed by student loan repayment obligations are those who borrow for graduate degrees (cumulative borrowing greater than $12,500),

EXHIBIT 9

CUMULATIVE DEBT AND MONTHLY REPAYMENT SCHEDULE

(Assume nine percent annual interest rate)

Amount of Accumulated Debt	Monthly Payment	
	10-Year Payout[a]	5-Year Payout[b]
$31,000	$392.69	$643.51
25,000	316.69	518.96
21,000	266.02	435.93
16,000	202.68	332.13
14,000	177.35	290.62
12,500	158.34	259.48
11,500	145.68	238.72
10,400	131.74	215.89
8,000	101.34	166.07
6,000	76.01	124.55
4,000	50.67	83.03
2,500	31.67	51.90

[a]Annuity factor for .75% for 120 months = 78.9417

[b]Annuity factor for .75% for 60 months = 48.1734

EXHIBIT 10

MONTHLY DEBT PAYMENTS AS A PERCENTAGE OF MONTHLY PRETAX INCOME: TEN-YEAR REPAYMENT PERIOD, NINE PERCENT INTEREST

	Monthly Pretax Income (Percentages)					
Loan Amount	$2000	$1667	$1500	$1250	$833	$417
$31000	19.6%	23.6%	26.2%	31.4%	47.2%	94.2%
25000	15.86	19.0	21.1	25.4	38.1	76.0
21000	13.3	15.9	17.7	21.3	31.9	63.8
16000	10.2	12.2	13.5	16.2	24.4	48.7
14000	8.9	10.6	11.8	14.2	21.2	42.4
12500	7.9	9.5	10.5	12.6	19.0	37.9
11500	7.3	8.8	9.7	11.7	17.5	35.0
10400	6.6	7.9	8.8	10.6	15.8	31.7
8000	5.1	6.1	6.7	8.1	12.1	24.2
6000	3.8	4.6	5.1	6.1	9.1	18.2
4000	2.6	3.1	3.4	4.1	6.1	12.2
2500	1.6	1.9	2.1	2.6	3.8	7.7

EXHIBIT 11

MONTHLY DEBT PAYMENTS AS A PERCENTAGE OF MONTHLY PRETAX INCOME: FIVE-YEAR REPAYMENT PERIOD, NINE PERCENT INTEREST

	Monthly Pretax Income (Percentages)					
Loan Amount	$2000	$1667	$1500	$1250	$833	$417
$31000	32.2%	38.6%	42.9%	51.5%	77.3%	154.4%
25000	25.9	31.1	34.6	41.5	62.3	124.4
21000	21.8	26.2	29.1	34.9	52.3	104.6
16000	16.6	19.9	22.1	26.6	39.9	79.6
14000	14.6	17.5	19.4	23.3	34.9	69.8
12500	13.0	15.6	17.3	20.8	31.2	62.4
11500	11.9	14.3	15.9	19.1	28.7	57.3
10400	10.8	13.0	14.4	17.3	25.9	51.8
8000	8.3	9.96	11.1	13.3	19.9	39.8
6000	6.3	7.5	8.3	10.0	15.0	30.0
4000	4.2	5.0	5.5	6.6	10.0	19.9
2500	2.6	3.1	3.5	4.2	6.2	12.5

who take positions that offer less than $18,000 ($1,500 per month), or who attempt to repay their debt in five years. The survey of starting salaries indicated that few of the occupations covered in that survey offered a salary lower than $18,000 for a person with an advanced degree.

A point of concern that is apparent from the analysis is that undergraduate students in the occupations traditionally held by women (nursing, teaching, social work), which are characterized by very low starting salaries, will feel the greatest impact of education loans on their post-education ability and willingness to borrow. To alleviate this problem, schools could direct more grant funds or scholarship moneys into those major areas where supply is short but salaries have not adjusted to reflect the shortage.

Because of a low level of anticipated future income, students in these areas of study may be unwilling to commit themselves to student loans. This hidden demand for student loans from those entering underpaid professions raises an interesting question for the National Commission on Student Financial Assistance. On the one had, some students may opt for a GSL, even though they recognize that their probabilities of repaying the loans are slim. Their ultimate defaults contribute to the public perception that students are taking undue advantage of the loan program. However, if demanding credit standards had been required of lenders, these loans probably would not have been made. Given the lack of incentive for lenders to apply strict credit standards, these "loans" become de facto grants. On the other hand, many students (whose numbers cannot be measured) use self-restraint and do not borrow under the government student loan programs. They may borrow smaller amounts

than needed from more costly sources, work part-time (possibly with an unfavorable effect on their academic record), or change their course of study. Rather than give de facto grants to risk-taking students and none to the financially cautious, it may be preferable for both governments and universities to channel grants on the basis of ability (not need) to students entering these professions and to provide the loan funds to those whose selection of educational programs and profession create an ability to repay these loans. Were this approach to be adopted, the default rates on student loans would decline and outstanding students entering nursing, teaching, and social work would be more equitably treated and avoid tarnishing their credit records.

IV. Future Trends in College Debt Burden

Although the analysis of 1981 data did not reveal serious problems in terms of the debt burden represented by student borrowing at the time of graduation, recent historical trends in college costs and starting salaries for college graduates suggest that serious problems may materialize. In addition, with the increase in borrowing limits instituted in 1980 and lenders' reluctance to handle small loans, average cumulative education loan balances have increased since 1981.[10] From 1979 to 1981, college costs at public and private institutions increased by 22.7 percent and 26.1 percent respectively. During the same period, discretionary income for families with dependents in college increased by 6.8 percent.[11] Given these trends, one needs to ask how much of a graduate's debt capacity will be absorbed by student debt in 1987 or 1988.

To answer this question we projected annual college costs to 1988 for public and private schools. These projections were made using data

generated by the Educational Testing Service and described in "Discretionary Income and College Costs." The annual college cost projections are shown in Exhibit 12. The projections were made assuming an annual rate of increase of 8 percent for public school costs and 9.5 percent for private school costs. These figures are consistent with the observed rate of increase in college costs from 1979 to 1981.

With this data series, total costs of a four-year degree from a public or private school were calculated. To estimate cumulative debt we used historical data showing that median cumulative student loans at the time of graduation in 1977 represented approximately 39 percent of total college costs for students who borrowed. With an assumption that students would continue to use student loans to fund approximately 40 percent of total college costs, we obtained expected median cumulative debt burdens for students graduating from four-year degree programs in 1982-1988 (Exhibit 13).

To determine how much of graduates' debt capacity was absorbed by the levels of debt shown in Exhibit 13, estimates of median starting salaries for the period 1981-1988 were needed. The median starting salary for a college graduate with a bachelor's degree in 1977 was $9,500.[12] Using this as a base, the Educational Policy Research Institute generated a beginning median monthly salary series from 1982 to 1988 using projections of the change in Gross National Product Implicit Price Deflator (GNP-IPD) to estimate the annual inflation during that period.

Finally, monthly loan payments for the various levels of cumulative borrowings were calculated assuming a ten-year repayment period and a nine percent annual interest cost. It is apparent in Exhibit 13 that cumulative borrowing by students attending private institutions will

EXHIBIT 12

ANNUAL COLLEGE COSTS

	Private (all schools)	Public (all schools)
1977	$ 4152	$1900
1978	4477	2009
1979	4908	2163
1980	5466	2372
1981	6190	2653
1982	6778	2865
1983	7422	3094
1984	8127	3342
1985	8899	3609
1986	9745	3898
1987	10671	4210
1988	11684	4547

SOURCE: Educational Testing Service, "Discretionary Income and College Costs."

EXHIBIT 13

MEDIAN BORROWING (FOUR YEARS OF COLLEGE)[1]

	Private School	Public School
1980	$ 7601	$3378
1981	8417	3679
1982	9336	4021
1983	10343	4393
1984	11407	4782
1985	12490	5164
1986	13678	5577
1987	14977	6024
1988	16400	6506

SOURCE: Educational Testing Serivce, "Discretionary Income and College Costs."

[1]Assume 40.0 percent of total cost of college is funded by student loans. The total cost used in the calculation of cumulative borrowing for a graduate in 1983 is the sum of the annual cost shown in Exhibit 12 for 1980, 1981, 1982, 1983.

exceed the current $12,500 limit in 1986-1988. This finding suggests that the loan maximum should be indexed to reduce the possibility that students will be restricted from attending private schools in the near future. Otherwise, private schools may be seriously disadvantaged relative to public schools during the latter part of the 1980s. It is questionable whether a student loan program should inadvertently create the potential of restructuring the American educational system.

Finally, the ratios of median debt payments to pretax income were calculated for the graduating student who borrowed the median amount of student loans and took a job offering the median starting salary (Exhibit 15). Over the period 1982-1988 students' educational debts would gradually absorb more of their total debt capacity whether they were attending a private or a public institution. The trend is significantly more noticeable in the private school series. If by 1983, students attending private schools are allowed to borrow as much as is shown in Exhibit 13, repayments on debt obligations would be more than ten percent of pretax monthly income. Given current levels of market and self-imposed debt limits, such loan repayment obligations represent an important portion of a graduate's debt capacity for the student in the median debt range.

An important point to note in this analysis is the role of the assumptions. Rates of increase in college costs and expected starting salaries and the diversity between the two assumed rates determine to a large extent the impact of student loan debt repayments on the noneducation debt capacity of the graduate. In addition, the assumption concerning the percentage of college costs that are covered by borrowed funds is very important in the analysis. If students financed more than 40 percent of college costs with debt, the effect on unused debt capacity would be correspondingly more severe than what is shown in our figures.

EXHIBIT 14

PROJECTED DEBT BURDEN
(Graduate with bachelor's degree)

	Median figures		
	Monthly Pretax Income	Monthly Loan Repayment (10-year repayment period)	
		Public	Private
1977	$ 792	$43	$ 96
1981	1108	47	107
1982	1192	51	118
1983	1278	56	131
1984	1363	61	145
1985	1445	65	158
1986	1527	71	173
1987	1614	76	190
1988	1706	82	208

EXHIBIT 15

MEDIAN DEBT PAYMENT AS A PERCENTAGE

OF MONTHLY INCOME

	Public School	Private School
1981	4.2%	9.7%
1982	4.3	9.9
1983	4.4	10.3
1984	4.5	10.6
1985	4.5	10.9
1986	4.6	11.3
1987	4.7	11.8
1988	4.8	12.2

V. Implications for the Future

The purpose of this study is to analyze whether the growth of students' borrowings may "shoulder out" other forms of consumer debt used to acquire services or to purchase homes, automobile, furniture, and other consumer durables. Were this to be the case, an intangible consumer asset--education--would replace other consumer assets, such as homes and automobiles. Such a shouldering out would occur if (1) consumers' total debt were restricted by an effective limit imposed by credit grantors or by consumers themselves; and (2) consumers prefer education as an asset to other goods and services that they might acquire with credit.

These two prerequisites for shouldering out are examined in the following two sections from two points of view. First, we assume a continuation of past debt burdens projected from the historical data presented earlier concerning creditors' aggregate debt limits and consumers' self imposed debt limits. Further, we assume the legislative climate and credit culture that existed in 1980-81, without reflecting reactions to the rather dramatic changes in creditors' experience under the reforms in the Bankruptcy Code. Second, we analyze the changes that are likely to occur that will affect limits on consumers' total debt and their appraisal of education as a preferred asset.

A. Future Debt Burdens Based on Past Data and Present Credit Culture

As explained in the earlier sections, projections of debts to finance the costs of education versus expected incomes of graduates of colleges and universities do not indicate that consumers' aggregate

debts will generally violate the standards imposed by government standards for housing loans and standards established by commercial banks, the dominant lending group in the private sector. Indeed, the evidence suggests that the self-imposed standards of consumers are often more stringent than the limits set by credit grantors.

Furthermore, the standards imposed by credit grantors are obviously diverse, even among the bankers who might be considered as the most rigorous of lenders. Evidence from the Credit Research Center's consumer bankruptcy study indicates clearly that other credit grantors do not impose rigorous limits on consumers' use of debt. Had the market "worked" to restrict consumers' use of debt ot affordable levels, we would not observe a significant proportion of consumers whose debts greatly exceeded their incomes filing for straight bankruptcy (chapter 7). Thus, under the present credit culture it is possible for consumers to finance their education and credit purchases of most other goods and services without market restraints.

Nonetheless, we observe two areas where credit limits may cause a shouldering aside of other forms of credit. First, students entering low-paying professions, such as nursing, may find it impossible to assume educational debts as well as large amounts of debts for other goods and services. Barring a substitution of direct grants-in-aid for educational loans, these constrained students have two main options--restrict their use of debt or assume more debt than they feel that they can afford.

On the one hand, they may postpone the purchase of less-preferred goods and services until their incomes rise or their students loans are significantly reduced. Surveys of consumers taken in 1977 and 1979 reveal the less-preferred uses of credit (Exhibit 16). In the two most recent surveys consumers were asked a question like the following (1979):

> People have many different reasons for borrowing money which they pay back over a period of time. For each of the reasons listed on this card, please tell me if you feel it is alright or not for someone like yourself to borrow money.

In each of the surveys the most preferred credit uses were to cover expenses due to illness, to finance educational expenses, and to finance the purchase of a car. The findings suggest that these uses would shoulder aside the use of credit for such purposes as to finance boats, snowmobiles and other hobbies, vacations, fur coats and jewelry if a consumer did limit his or her own use of credit.

On the other hand, some students may assume excessive debt burdens and subsequently discharge a significant portion of the burden by electing bankruptcy (chapter 7). Under the provisions of the Bankruptcy Code most unsecured creditors receive little or no repayment on their claims. Further, even though many student loans may not be discharged, discharge may be permitted by the courts when denial of discharge would impose an undue hardship on the debtor or the debtors' dependents. Given the low salaries in some fields financed by student loans, it may not be difficult to prove hardship in many cases. (Educational loans may also be discharged under chapter 7 when the loan was scheduled to mature more than five years before the date of bankruptcy.) In effect, these educational loans become grants that are subsidized by other consumers who repay their debts, most particularly their unsecured debts.

EXHIBIT 16

ATTITUDES TOWARDS INSTALMENT DEBT USE

(Percent Favoring Use)

Appropriate Reasons for Borrowing	1977[a]	1979[b]
Cover expenses due to illness	85	75
Finance educational expenses	80	71
Finance purchase of a car	84	84
Finance purchase of furniture	60	54
Consolidate bills	47	42
Cover living expenses when income is cut	49	39
Finance boats, snowmobiles and other hobby items	23	19
Cover expenses of vacation	17	16
Finance the purchase of fur coat or jewelry	6	6

[a]Durkin and Elliehausen, op. cit., p. 53

[b]Dunkelberg, et al., CRC 1979 Consumer Financial Survey (West Lafayette, IN: Credit Research Center, Purdue Univeristy, 1981), p. 251. Based on survey of 3,572 consumers in four local markets in Arkansas, Illinois, Louisiana, and Wisconsin.

A second area where shouldering aside or postponement of credit purchases may occur is credit for the purchase of residential property. In contrast to the nonexistent or variable credit standards in the consumer credit field, the strictures covering conventional, FHA, and VA loans are fairly rigid. Also, the originators and purchasers of residential mortgages have a strong incentive to adhere to or even improve upon those standards to insure the marketability of their loans.

Consequently, whereas we might discover that consumers have relatively little difficulty in finding some creditor to bend standards to finance the purchase of a motorcycle, TV set, or microwave oven, the probability of evading the mortgage lending standards outlined earlier are slim. As a result, we expect to find consumers whose personal debt limits exceed those of mortgage lenders to be rationed out of the mortgage credit market. As observed earlier, the "pinch" is most likely to affect students graduating in the period 1985-1988.

A number of caveats need to be made lest growth in educational loans be blamed for a recession in residential construction. First, it is inappropriate to assume that educational loans are the sole cause of postponed home purchases. Unless the consumer has other consumer debts, educational debt alone are unlikely to foreclose a graduate from purchasing a home on credit. At worst, educational debt may not permit the scale of residence to which the graduate would like to become accustomed. Second, it would be extremely difficult to disassociate the effects of educational loans on graduates' financing of residential property. Many demographic factors are at work that are likely to reduce the purchases of traditional three-bedroom suburban homes by consumers

aged 25-35. Demographic data indicate that young consumers have smaller families and are likely to have both partners working. With this work pattern, higher energy costs, and the revitalization of many downtown areas, young couples may not wish to acquire a mortgage to buy the traditional suburban home. Instead, they may want a small, downtown apartment. Very likely such changes as these will impact the growth and nature of the residential construction business far more than the growth in student loans.

B. Future Debt Burdens Based on Potential Changes in the Credit Culture

1. Changes in limits on aggregate debt.

The marked increases in creditors' bankruptcy losses will surely set in motion legislative or economic responses. On the one hand, it is possible that Congress may establish some standards for admission to chapter 7. On the other hand, creditors have already taken steps to limit further bankruptcy losses by reducing their unsecured loans and placing greater reliance on secured loans, especially those secured by real property.

As creditors depend more heavily on real property for security, usually through second mortgage loans, the limits on credit availability will impact recent college graduates fairly heavily. As indicated in the previous section, the relatively inflexible standards of mortgage lenders and the demand for a uniform, and relatively assured quality mortgage instrument in the secondary market are likely to make it difficult for some recent graduates to finance homes. However, the limits imposed by mortgage lenders will now impact the availability of other forms of consumer

credit. Without a residence upon which to base a second mortgage, many graduates will find it more difficult to obtain other forms of consumer credit than they have in the past. With lower overall limits, there will be more shouldering aside of other forms of credit. However, the process by which this will occur will be roundabout and difficult to trace, since it moves from the bankruptcy problem via restrictions on mortgage credit to reduce the availability of other forms of consumer credit.

Another important response currently underway has been the development of more sophisticated monitoring systems to provide an early warning of potential bankrupts. For example, firms specializing in credit scoring have been analyzing account payment patterns (especially in the case of revolving credit) through a process termed "performance scoring" in order to detect potential bankrupts. Credit reporting agencies provide two types of services aimed at reducing creditors' exposure to bankruptcies. One service is to screen all credit cards that are due to expire against criteria from the credit reports that are established by the credit grantor. On the basis of this analysis consumers who have a high probability of becoming bankrupts are denied a renewal card. Another type of service is to monitor all open accounts against data in credit reports that are found to be associated with overuse of credit. Thus, credit grantors are notified if a particular account suddenly has a large number of "inquiries" reported. An inquiry represents an effort by the consumer to obtain credit from a creditor. Multiple inquiries may indicate a sudden change in self-restraint or an adverse credit picture that has forced the consumer to seek credit from different and, perhaps, more lenient sources.

These improvements in the system of evaluating credit quality will also have the effect of reducing the availability of credit to consumers who would otherwise assume excessive debts. Again, the result will be a further shouldering aside of other forms of consumer credit in favor of educational debts. However, from society's viewpoint, this result should be preferred to a situation wherein consumers who repay their obligations are indirectly providing grants to college graduates who have sought chapter 7 to shed most, if not all, of their unsecured debts.

2. Increase in average size of educational loans

At the same time that we anticipate a lowering of aggregate credit limits, we also anticipate an increase in the average size of post-graduation debts. This increase is likely to occur for several reasons. First, as discussed earlier in this study, we perceive a need to raise the maximum limit on student loans in the latter part of the 1980s to avoid disadvantaging the private schools. Second, the long-term rise in operating costs discourages lenders from making small loans. As fixed handling costs rise, the breakeven size of student loan also increases. Further, fixed administrative costs and collection costs also mitigate against lending to freshmen, students in two-year colleges and trade schools, where loans are smaller and credit risks are higher. Thus, the cost/revenue squeeze naturally forces lenders to favor making loans to students in four-year programs at the beginning of the sophomore year and to students in post-graduate schools.

In summary, we anticipate that the present credit culture will change--that aggregate credit limits will decline at the same time that average student loans increase in size. Thus, we expect to see greater

shouldering aside of other forms of consumer credit and of mortgage credit than would be anticipated if one merely projected the data from the 1970s into the 1980s. However, we still do not believe that it will have a significant or very deletorious effect on the economy. Further, if markets are permitted to operate freely, the forms of credit shouldered aside will be used for purposes less preferred by consumers than education.

VI. Conclusions

This study has reached a number of conclusions that are highly relevant to the deliberations of the National Commission on Student Financial Assistance.

1. There are limits set on the aggregate amounts of debts that consumers may assume. The most uniform are those set regarding residential mortgages. A number of commercial bankers establish aggregate limits, but they vary widely. Other creditors are even less exacting, in part because the information system does not provide sufficient data to assess credit risk with great accuracy. Consumers also limit their use of debt voluntarily, often at lower levels than would be permitted by credit grantors. Thus, many have unused debt capacity. Other consumers can and do obtain large amounts of debt relative to income. Except in a few cases, it appears unlikely that educational debt may shoulder aside other forms of credit to the detriment of automobile sales or homebuilding.

2. At the margin, consumers most likely to be affected by debt limits are those who plan to enter the poorly-paid vocations, such as nursing or teaching. Since students in this field may self-impose debt limits and hamper their education, it may be preferable to design a grant program to support their education.

3. Because of the fairly rigid, but high, limits on debt placed by mortgage lenders, some consumers may find it necessary to postpone acquiring a home, or may need to settle for a smaller home than they might wish. But, since other forms of credit must share the responsibility for pushing those borrowers to the debt limit, it is not appropriate to focus on student loans as the "cause" of declines in residential construction. We have suggested that, even without student loans, there may be other reasons for the problems of the residential construction industry.

4. If the trends in educational costs and incomes of the past are projected into the late 1980s, we anticipate greater shouldering aside of other forms of credit than will prevail in the early part of the decade. The inflation in educational costs, coupled with the differences in costs of public and private schools, suggests a need to index the maximum allowable student loan to avoid disadvantaging private schools relative to public schools.

5. Finally, if we modify the extrapolated projections of the past to take into account the anticipated changes in the credit culture, we expect to see a lowering of aggregate credit limits and an increase in the average size of student loans owed following graduation. So long as the government does not make an effort to allocate credit and leaves the choice to consumers, our survey data suggest that loans to finance education will be preferred by consumers to loans to finance purchases that might be classed by some as luxuries.

FOOTNOTES

[1]"Guaranteed Student Loans: A Background Paper," National Commission on Student Financial Assistance, Report No. 1, March 1982, p.1.

[2]H. J. Flamer, D. H. Horch and S. Davis, "Talented and Needy Graduate and Professional Students: A National Survey of People Who Applied for Need-Based Financial Aid to Attend Graduate and Professional School in 1980-81, " Princeton, NJ: Educational Testing Service, April 1982, p. 7.11.

[3]See, A. Charlene Sullivan, "Effects of Consumer Loan Rate Ceilings on Competition Between Banks and Finance Companies," Working Paper No. 38, West Lafaytte, IN: Credit Research Center, Purdue University, 1981.

[4]T. A. Durkin and G. Elliehausen, 1977 Consumer Credit Survey, Washington, D.C.: Federal Reserve Board of Governors, 1978, p. 93.

[5]Ibid, p. 94.

[6]John B. Lee, "Study of Guaranteed Student Loan Default Rates," 1982, Table 6.

[7]"Discretionary Income and College Costs," The Education Policy Research Institute of the Educational Testing Services for the National Commission on Student Financial Assistance, August 1982, p. 9.

[8]Ibid., p. 11

[9]H. J. Flamer, D. H. Horch and S. Davis, "Talented and Needy Graduate and Professional Students: A National Survey of People Who Applied for Need-Based Financial Aid to Attend Graduate and Professional School in 1980-81," Princeton, NJ: Educational Testing Service, April 1982, p. 7.4.

[10]Statement of Ralph Olmo, Conptroller, U.S. Department of Education before the National Commission on Student Financial Assistance, January 14, 1983. p. 5.

[11]"Discretionary Income and College Costs," p. 7

[12]Ibid., p. 9.

APPENDIX A

1. Mail Questionnaire

December 2, 1982

CREDIT RESEARCH CENTER
Krannert Graduate School of Management
Purdue University
West Lafayette, IN 47907

Dear CBA Member:

With the cooperation of the Consumer Bankers Association, we are undertaking a short survey to determine whether lending officers at commercial banks have guidelines or policies that limit the aggregate amount of consumer and mortgage debt that consumers may have. If there are such guidelines, we would like to know what they are.

Additionally, Drew Tidwell has suggested that it would be helpful to the Consumer Bankers Association to know your bankruptcy losses for the first halves of 1981 and 1982.

We know that this is a busy season for you, but we have little choice in timing of our survey. We need the data as soon as possible. We have enclosed a stamped self-addressed envelope for your convenience to return the questionnaire. Thank you for your consideration.

Part I - Debt Limits

1. As a matter of lending policy, do you follow guidelines limiting the total amount of consumer and mortgage debt from all sources, including the loan being requested, that an acceptable applicant for a loan may have?

___ Yes

___ No Go to Question 3

2. How is your limit on total debt measured?

Use this measure?			Maximum percentage generally permitted
a. Total consumer and mortgage debt / Pretax income	___ Yes	___ No	_____%
b. Total consumer and mortgage debt / After-tax income	___ Yes	___ No	_____%

Use this measure?			Maximum percentage generally permitted
c. Total monthly payments on mortgage and consumer debt / Monthly pretax income	___ No	___ Yes	_____%
d. Total monthly payments on consumer instalment and revolving credit accounts / Monthly pretax income	___ No	___ Yes	_____%
e. Total monthly payments on mortgage and consumer debts + property taxes, insurance, utilities / Monthly pretax income	___ No	___ Yes	_____%
f. Total monthly payments on mortgage and consumer debts + property taxes, insurance, utilities / After-tax monthly income	___ No	___ Yes	_____%
g. Other ratio or ratios used and maximums permitted	_____		_____%
	_____		_____%

3. Have you any comments that would explain further how your bank limits the aggregate amount of consumer debts or that would explain why you have not set some sort of guidelines?

_____

_____

_____

_____

_____

_____

Questionnaire 3

Part II - Bankruptcy Experience

4. What was the dollar amount of your losses directly attributable to consumer bankruptcies during

a. The first six months of 1981 $_____

b. The first six months of 1982 $_____

5. In what state is your bank located? _____

Thank you for your cooperation.

Robert W. Johnson

A Charlene Sullivan

Robert W. Johnson, Director
A. Charlene Sullivan, Associate Director

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Credit
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WORKING PAPER NO. 47

Economic Factors Associated With Personal Bankruptcy

1983

Krannert Graduate School of Management – Purdue University

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ECONOMIC FACTORS ASSOCIATED WITH PERSONAL BANKRUPTCY

A. Charlene Sullivan*

Abstract

An understanding of factors related to trends in the incidence of personal nonbusiness bankruptcy is important to credit managers as well as to economists. This study updates and extends to 1982 an earlier study of economic factors associated with the incidence of bankruptcy from 1950 to 1970.

This study shows that the incidence of personal bankruptcy follows movements in a measure of the aggregate household debt burden (total consumer credit outstanding relative to disposable personal income). Unlike the earlier study, we found that independent measures of willingness to file bankruptcy were also significantly associated with the number of bankruptcies filed per 100,000 of population.

Our study also indicates that the enactment of the Bankruptcy Reform Act was followed by a significant increase in the incidence of personal bankruptcy. Holding other conditions constant, our model suggests that about 50 percent of such bankruptcies filed in 1982 were attributable to the new law.

---

*Associate Director, Credit Research Center and Assistant Professor, Krannert Graduate School of Management, Purdue University. The author acknowledges helpful comments from R. W. Johnson, D. A. Drecnik and the computational assistance of Jim Fain. All remaining errors are the responsibility of the author.

ECONOMIC FACTORS ASSOCIATED WITH PERSONAL BANKRUPTCY

A. Charlene Sullivan

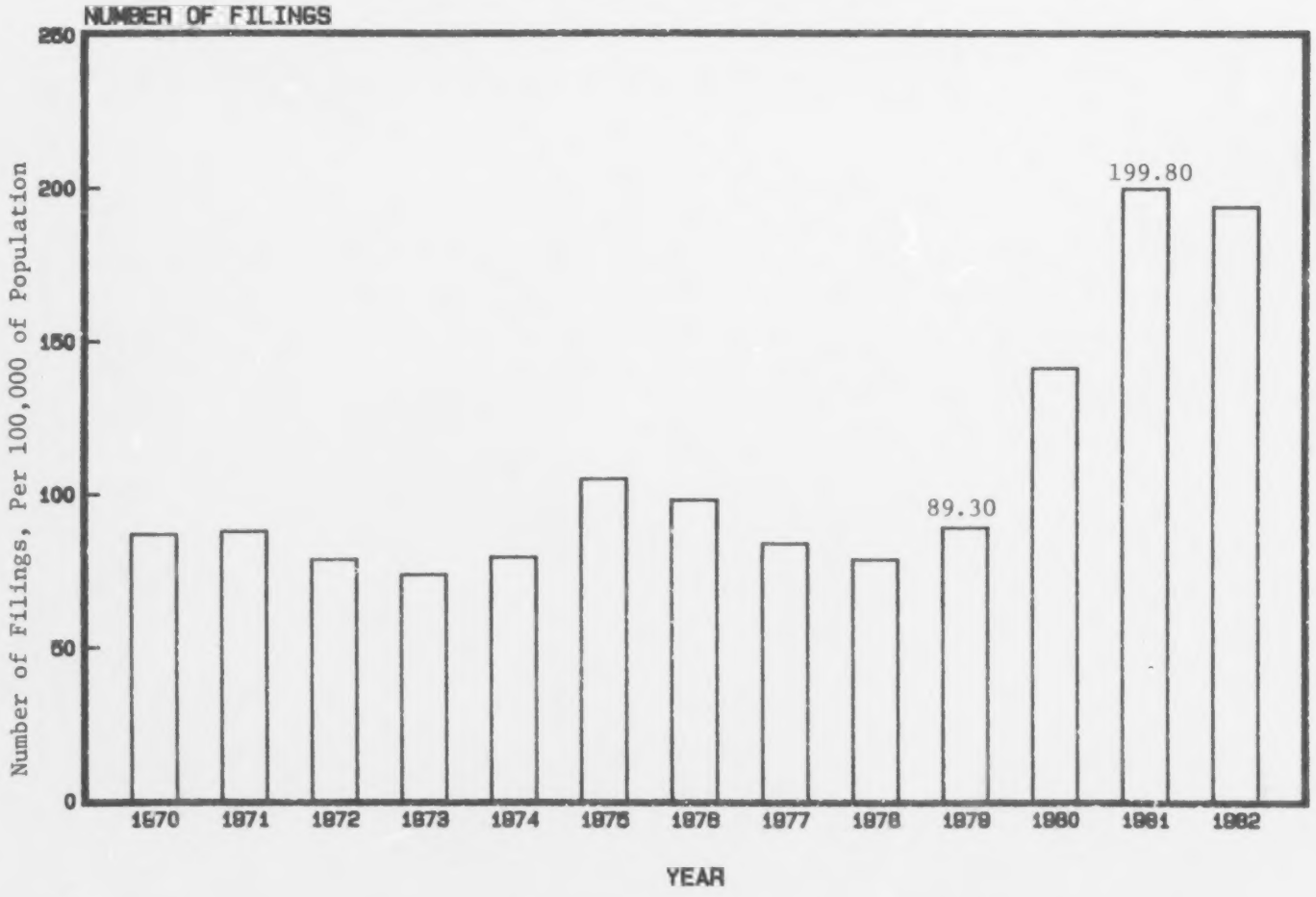
The growth in the number of personal bankruptcies has been well publicized, especially since the enactment of the Bankruptcy Reform Act of 1978. Since October 1979, when the law went into effect, the number of personal nonbusiness bankruptcies filed per year per 100,000 of population has more than doubled (Exhibit 1). An earlier study of trends in personal bankruptcies from 1950 to 1970 [11] showed that the incidence of personal bankruptcy was significantly and positively associated with a measure of aggregate consumer debt use. This study extends and expands that analysis of the relationship between the incidence of bankruptcy and household debt burden in light of changes that have occurred in the consumer credit market since 1970, including the new bankruptcy code.

The paper is organized into three sections. In the first section, the literature concerning the economic and demographic factors associated with personal bankruptcy is reviewed. Several specifications of a model of personal bankruptcy are empirically tested in the second section. The final section contains a discussion of the results and conclusions.

EXHIBIT 1

INCIDENCE OF PERSONAL BANKRUPTCY

(FILINGS PER 100,000 OF POPULATION)*



*The number of filings were adjusted to reflect the fact that before 1979, a husband and wife had to file separately, and were counted as two filings; after 1979 a husband and wife could file jointly on one petition.

SOURCE: U. S. Bankruptcy Courts

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I. Background

The few studies related to personal bankruptcy either analyze determinants of the rate of personal bankruptcy using time series data [11] or characteristics of consumers taking bankruptcy using cross-sectional data [7,8]. Yeager [11] developed a bankruptcy growth model that related the incidence of personal bankruptcy filings per 100,000 of population to the incidence of financial insolvency in the population and to the proportion of insolvents who chose bankruptcy. The latter variable was a reflection of consumers' attitudes toward the moral, social, and economic consequences of bankruptcy.

Yeager used the ratio of consumer instalment credit outstanding to disposable personal income as a proxy for the incidence of insolvency and the tendency to choose bankruptcy. He found that the debt burden variable (lagged six months) explained 94 percent of the variation in the annual number of personal bankruptcy filings per 100,000 of population for the period 1950 to 1970.[1] The rate of unemployment, lagged for various time periods, was introduced but did not improve the explanatory power of the model.

Yeager noted that the upward trend in both the number of personal bankruptcies and aggregate use of consumer credit relative to disposable income which started in 1950 was abated in 1965.

> The saturation point was apparently reached in the mid-sixties, when the ratio of consumer credit outstandings to disposable personal income had grown to 19 percent. This ratio ceased to grow after calendar year 1965 and average growth in personal bankruptcies from fiscal year 1966 to fiscal year 1970 was virtually zero . . . [11, p.96].

The increase in the incidence of personal bankruptcy from 1950 to 1965 was apparently a byproduct of a structural shift to a more credit-oriented economy.

After 1970, until 1979, both the number of bankruptcies per 100,000 of population and the debt burden variable fluctuated randomly with little apparent relationship to each other. Between 1971 and 1979, the number of personal bankruptcies per 100,000 consumers fluctuated between 74.0 and 105.05. During the same period, the measure of debt burden ranged narrowly from 20.4 percent in 1975 to 23.4 percent in 1979. The break in the pre-1970 relationship of bankruptcy rate to debt burden is illustrated in Exhibit 2, which provides a scatter diagram of the yearly relationships. It is apparent that the positive correlation between the two variables disappears when the ratio of consumer instalment debt to disposable personal income exceeds 20 percent. Above this point there appears to be no systematic relationship between the two variables. In October 1979, the Bankruptcy Reform Act of 1978 became effective and the sharp increase in the number of petitions filed after that date can perhaps be attributed to the law, which increased the benefits relative to the costs of filing personal bankruptcy.

Studies of personal bankruptcy that use cross-sectional data to identify the characteristics of petitioners for bankruptcy and the problems that lead to bankruptcy provide some insight into other factors that may have a causal relationship with the incidence of bankruptcy. A recent study of a sample of petitioners for bankruptcy under chapter 7 of the code [8] showed that the "typical" petitioner was less than 44 years of age with a family, and employed in a blue collar position.

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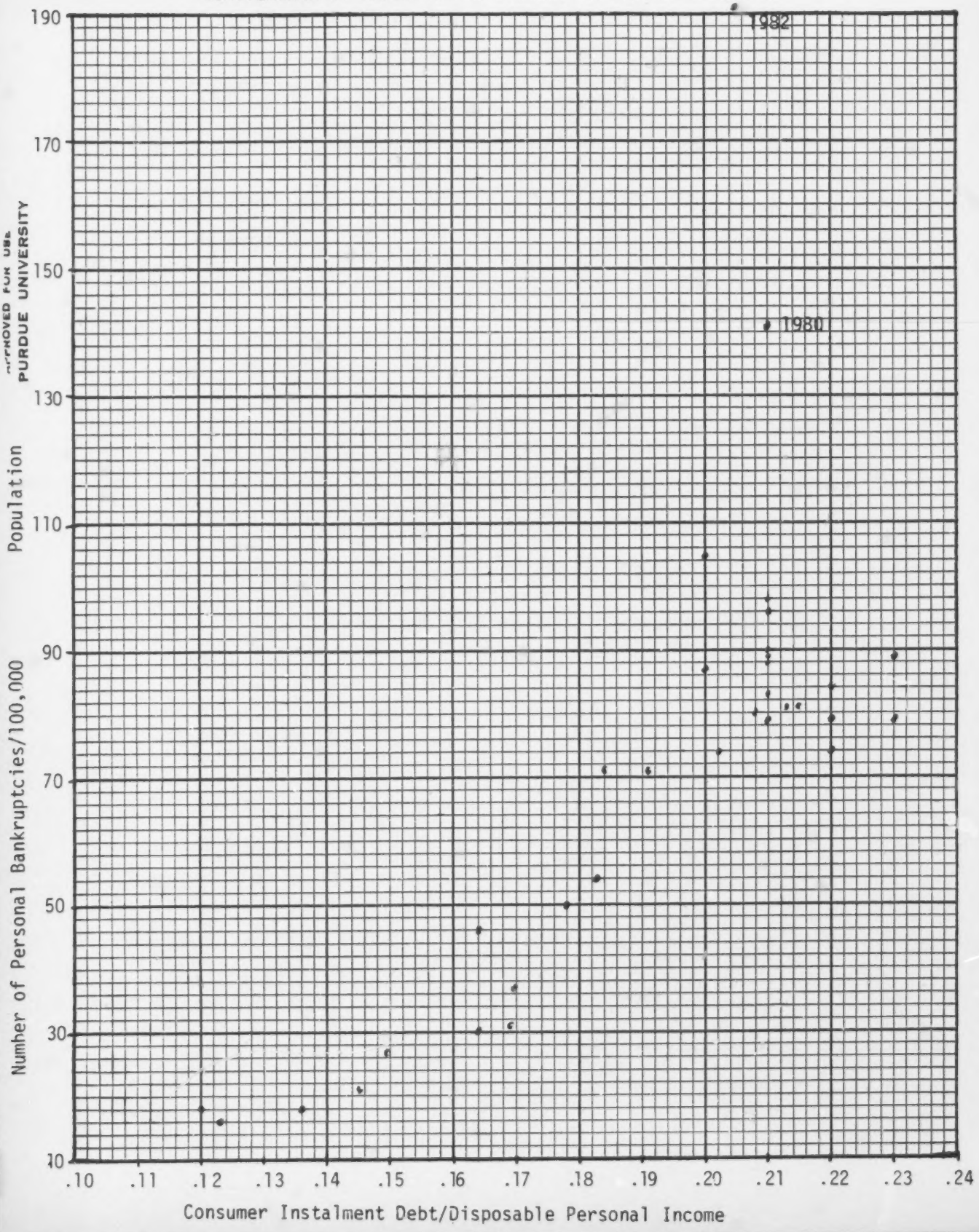
EXHIBIT 2

SCATTERGRAM OF INCIDENCE OF BANKRUPTCY AND DEBT BURDEN



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Debt use is high during the family formation years relative to other stages of the life cycle. However, consumers in the family formation stage (25-44 years) had a disproportionally high representation among petitioners for bankruptcy. When asked to cite the most important causes of bankruptcy, petitioners were most likely to indicate marital problems, medical problems, increased cost of living, or excess use of credit. Thus, trends in variables such as age distribution of the population, divorce rate, and inflation of medical costs may be useful to explain trends in the incidence of personal bankruptcy.

II. Analysis

Since Yeager's model showed a highly significant positive relationship between the incidence of personal bankruptcy and a measure of debt burden, an initial step in our analysis was to extend application of his model to 1982. Somewhat surprisingly, we found a marked decline in the explanatory power of the model and a significant level of positive serial correlation in the residuals (Exhibit 3).

The consistent positive trend in the incidence of personal bankruptcy and the debt burden measure disappeared in 1965. We hypothesized that the relationship between the two variables was different in the period before 1965 than in the period after 1965. When the 33-year period was divided into two subperiods with the division made at 1965, the results of the estimation of the model were markedly different for the two subperiods. In the first period, the coefficient of the debt burden variable was positive and significant. In the second period, the coefficient of the consumer debt-to-disposable-income variable was

EXHIBIT 3

ESTIMATES OF DETERMINANTS OF PERSONAL NONBUSINESS BANKRUPTCY

(Dependent variable = nonbusiness personal bankruptcies per 100,000 population)

Time Period	Constant	CID	CID_{-1}	CID_{-2}	R^2	F	DW	Test of Stability of Relationship
1950-1982	-100.74 (-2.7)*	918.66 (4.8)*			.41	23.0	.40	
1950-1965	-86.84 (-7.2)*	796.44 (11.0)*			.89	120.97	1.04	F = 14.88*
1966-1982	580.01 (3.2)*	-2234.71 (-2.6)*			.27	6.97	.29	
1950-1982	61.05 (1.90)		87.31 (.52)		.00	.27	.15	
1950-1965	-92.02 (-7.37)*		842.31 (11.32)*		.90	128.1	.93	F = 34.68*
1966-1982	189.91 (6.01)*		-427.57 (-2.83)*		.30	7.98	1.03	
1950-1982	-123.00 (-4.29)*			1057.68 (7.14)*	.62	50.92	.34	
1950-1965	-94.75 (-7.54)*			888.10 (11.61)*	.91	134.76	.77	F = 2.83
1966-1982	-476.42 (-2.34)*			2701.95 (2.86)*	.35	8.16	.59	

*Significant at the 99 percent confidence level.

CID = Ratio of outstanding consumer instalment and noninstalment credit to annual disposalbe personal income.

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significant but negative. An F-test of the stability of the model over the entire period confirmed that the relationship between the incidence of personal bankruptcy and debt burden was not stable.[2]

The significant change in the relationship between debt burden and the incidence of consumer bankruptcy over the two test periods may be attributed to federal regulations of consumer credit that have been enacted since 1965. The Consumer Credit Protection Act, which became effective on July 1, 1969, was the first federal law regulating consumer credit and served to override many state laws which may have been less liberal relative to the federal law with regard to garnishment.[3] Other federal regulations of consumer credit which have been enacted since 1970 are the Equal Credit Opportunity Act, Fair Credit Billing Act and the Fair Credit Reporting Act. These regulations have generally reduced creditors' rights relative to those of consumers and thus may have increased the length of time between the incurrence of excess debt and the exhaustion of self-help tactics other than voluntary bankruptcy.

We tested this hypothesis by evaluating several specifications of the bivariate relationship between debt burden and personal bankruptcy with the independent variable lagged one and two years.[4] The results of the tests with the debt burden variable lagged one year (CID_{-1}) were inconclusive (Exhibit 3). When the equation was estimated over the entire period, the model had no explanatory power ($R^2=0$). The estimate for the first subperiod showed that the incidence of personal bankruptcy was significantly positively associated with debt burden whether lagged one period (CID_{-1}) or with no lag (CID). This insensitivity of the results is probably attributable to the consistent positive trend in both

the independent and dependent variables during this time period (1950-1965). Consequently, it is conceivable that there was no change in the relationship between the measure of debt burden and the incidence of bankruptcy over the entire study period. Rather, Yeager's results may be attributable to a spurious correlation between the two variables as they were specified in his model.

We reestimated the equation with the debt burden variable lagged two years with more satisfactory results. For the entire period and the two subperiods, the coefficients of the debt burden variable were positive and significant. The test of stability showed that the model was stable over the entire test period. However, the explanatory power of the model was lower than that achieved by Yeager, and the Durbin Watson statistic supported the hypothesis that the residuals were significantly positively correlated. In time series data, if the successive residuals are serially correlated the results may be capturing the effect of omitted explanatory variables.[5]

Whereas Yeager empirically tested only the relationship of debt burden to the incidence of bankruptcy, an additional independent factor associated with the level of bankruptcies i.e., willingness of consumers to file for bankruptcy was also hypothesized. Legally, a consumer does not have to be financially overburdened to file bankruptcy. Rather, a consumer may simply be unwilling or uncertain about his or her ability to repay existing debts and file for bankruptcy. The only restriction on the voluntary use of bankruptcy is that an individual may file only once within a six-year period. Consequently, the measures of debt burden may not be correlated with consumers' evaluation of the costs and benefits of

bankruptcy and willingness to file bankruptcy as Yeager assumed in the empirical testing of his model. We tested the explanatory value of two variables as independent proxies for willingness to file bankruptcy.

A household with a heavy debt burden, but an optimistic outlook about the future, would perhaps be less likely to file bankruptcy than otherwise similar households with a pessimistic view of the future.[6] Thus, we expected to find a negative relationship between household economic expectations and the incidence of personal bankruptcy. An index of household expectations--the Consumer Sentiment Index (CSI)--was included in the model as one proxy for willingness to repay debts or, inversely, to file bankruptcy.[7]

The index is measured quarterly and is a weighted average (equal weights) of responses of a random sample of households to the following set of questions:[8]

1. We are interested in how people are getting along financially these days. Would you say that you and your family are better off or worse off financially than you were a year ago?

2. Now, looking ahead, do you think that a year from now you people will be better off financially, or worse off, or just about the same as now?

3. Now turning to business conditions in the country as a whole--do you think that during the next twelve months we will have good times financially, or bad time, or what?

4. Looking ahead, which would you say is more likely--that in the country as a whole we will have continuous good times during the next

five years or so, or that we will have periods of widespread unemployment or depression or what?

5. About the big things people buy for their homes--such as furniture, house furnishings, refrigerator, stove, television, and things like that. For people in general, do you think now is a good time to buy major household items?

We tested several lag formulations of the CSI variable and found that the two-year lag specification made the greatest contribution to the explanatory power of the model. The sentiment variable and the debt burden variable were slightly negatively correlated with a simple correlation coefficient of -.07.

During recessionary periods personal knowledge of the consequences of bankruptcy is gained from the experiences of family, friends, and coworkers, and from news stories about bankruptcy.[9] This knowledge might lead to a reassessment of the personal consequences of bankruptcy. In other words, during recessionary periods the number of people filing bankruptcy would increase because uncertainty regarding the consequences would be reduced. An alternative measure of willingness to file bankruptcy which was tested was a dummy variable that took the value of one during the years since 1950 which have been officially designated as recessionary (RECES) and zero otherwise. Tests of various specifications of the relationship showed that the RECES variable made the maximum contribution to the explanatory power of the model when it was specified with a two-year lag.

The final variable included in the model which is ultimately related to willingness to file bankruptcy was a dummy variable (DUM) which

represented the years since the enactment of the Bankruptcy Reform Act (1979-1982). The specific provisions of the law for personal bankruptcy which reduced the costs relative to the benefits of bankruptcy were: (1) a federal override of state asset exemption provisions which was more generous than many state laws; (2) a requirement that once a bankruptcy petition is filed, all collection activity must cease; and (3) a relaxation of restrictions on the availability of chapter 13 relief. The optimal specification of that variable was with a one-yar lag.[10] In other words, although the law became effective in October 1979, the impact on the number of petitions filed was not observable until 1980. The estimates of the model with the variables reflecting willingness to file bankruptcy included are shown in Exhibit 4.

The explanatory power of the model with the additional variables included improved dramatically over that of the bivariate model. The coefficients of the sentiment variable whether specified as an index of sentiment or as a dummy variable representing periods of recession, was significant with the expected sign. The overall results of the two models with the alternative attitude variables were almost identical. The R^2 for both models was .93 and the Durbin Watson statistic, although improved from that for the bivariate model, was in the indeterminate range at the five percent level of significance.

The coefficient of the variable representing the enactment of the change in the bankruptcy law (DUM) was significant and positive. Estimates using equation B in Exhibit 4 show that about half of the bankruptcies per 100,000 of population filed in 1982 could be attributed to the change in the bankruptcy law. (Exhibit 5).[11] The estimates in

EXHIBIT 4

ESTIMATES OF DETERMINANTS OF PERSONAL NONBUSINESS BANKRUPTCY

(Dependent variable = nonbusiness personal bankruptcies per 100,000 population)

		Estimated Coefficient							
	Time Period	Constant	CID_{-2}	ICS_{-2}	$Reces_{-2}$	Dum_{-1}	R^2	DW	F
A.	1950-1982	-84.08 (-6.07)*	880.74 (9.82)*	-.16 (-1.79)**		71.59 (8.09)*	.93	1.40	125.29
B.	1950-1982	-74.44 (-5.81)*	748.64 (10.95)*		12.24 (2.57)*	75.88 (10.48)*	.93	1.54	140.59

*Significant at one percent confidence level.

**Significant at five percent confidence level.

CID = Ratio of outstanding consumer instalment and noninstalment credit to annual disposable personal income.

ICS = Measure of consumer sentiment series created by the Survey Research Center at the University of Michigan.

RECES = Dummy variable taking on the value of one in years officially designated as being periods of recession and zero otherwise.

DUM = Dummy variable taking the value of one for years since the Bankruptcy Reform Act of 1978 has been in effect, i.e. 1979-1982.

EXHIBIT 5

ESTIMATES OF THE EFFECT OF THE

BANKRUPTCY REFORM ACT

	Number of Bankruptcies per 100,000 of population			
	1979	1980	1981	1982
Actual	89.30	141.32	199.80	193.90
Estimated if no new law	89.30	110.74	112.98	96.51
Δ Attributable to new law		30.58	86.82	97.39
Δ as percent of total filings		21.6%	43.5%	50.2%

Exhibit 5 also show that in the three years since the law was enacted the percent of total filings that could be attributed to the change in the bankruptcy code has increased from 21.6 percent to 50.2 percent.

Alternative models that included measures of the divorce rate, trends in medical costs and housing expenses, the unemployment rate (lagged) and age shifts in the population were estimated. Since all the coefficients for these variables were not significantly different from zero, those results are not shown.

III. Summary

The model of the incidence of personal nonbusiness bankruptcy developed and tested by Yeager [11] related the annual rate of bankruptcy to the yearly ratio of the aggregate level of consumer credit outstanding to disposable personal income for the period 1950-1970. Since 1970, the measure of debt burden has fluctuated randomly with no trend, while the incidence of personal bankruptcy has increased, quite dramatically in recent years. This research found that the ability of Yeager's model to explain bankruptcy trends had declined dramatically. Confronted with the failure of the Yeager model in the post-1965 period, we tested variants of Yeager's model which reflect various lags between the points in time when high levels of debt are incurred and a bankruptcy petition is filed and additional measures of household economic attitudes and a variable representing the change in the federal bankruptcy law.

Our analysis show that the major explanatory variables for the incidence of personal bankruptcy per 100,000 people are debt burden and short-term economic outlook or attitudes. The optimal specification of both factors reflected a two and one-half year lag of changes in the rate

of personal bankruptcies following changes in the economic variables. Holding those factors constant, our analysis shows that the enactment of the 1978 Bankruptcy Reform Act was followed by a significant increase in the number of personal nonbusiness bankruptcies filed per year per 100,000 people. About half of the personal bankruptcies filed in 1982 were attributed to the Reform Act.

These results suggest that the incidence of personal bankruptcy will not change dramatically in the next couple of years. The debt burden measure has declined since 1980 but the effects of the recession of 1979-81 on the incidence of bankruptcy will not subside quickly even though we are experiencing an upturn in the level of economic activity. In addition, the provisions of the new bankruptcy law will keep the incidence of bankruptcy at a high level until other adjustments made by creditors in light of the legislation, such as the substitution of secured claim for unsecured claims, change the economics of the decision to file for personal bankruptcy.

FOOTNOTES

[1]The bankruptcy statistics are based on the fiscal year while the outstanding credit and disposable income numbers are based on calendar year. Consequently, there is a six-month lag of the outstandings figure relative to the bankruptcy figure.

[2]To test for structural change of a model over time series data, one may construct the test statistic:

$$\frac{(RRSS-URSS)/K}{URSS(n_1+n_2-2K)} \sim F_{K,n_1+n_2-2K}$$

where the restricted residual sum of squares (RRSS) result from the estimation of the model over n_1+n_2 data points, constraining the K parameters to be equal; the unrestructed residual sum of squares (URSS) is calculated by estimating the model over the first n_1 and the second n_2 data points separately, and then summing the residuals resulting from each estimation.

[3]Cross-state analysis of the incidence of bankruptcy [1] found the rate of bankruptcy significantly higher in states with liberal garnishment laws, that is, laws that permitted creditors to gain a large proportion of consumers' income when the consumer defaulted on a contract.

[4]Actually, the lags tested were 1-1/2 and 2-1/2 years given the way the data series are created.

[5]See [5], p. 274.

[6]See Katona [4] for a discussion of psychometrics which is the study of the relationship between economic expectations and economic decision making.

[7]See Richard T. Curtin, "Index Construction: An Appraisal of the Index of Consumer Sentiment," Survey of Consumers 1971-1972, (Ann Arbor: Institute for Social Research, 1973).

[8]The annual index was created from an equally weighted average of the quarterly indexes.

[9]In [8], the sources of information most frequently specified by petitioners for chapter 7 bankruptcy was friends, relatives and coworkers.

FOOTNOTES (continued)

[10]Pfeilsticker [6] noted that "there was a sigh of relief when the raw figures for personal bankruptcy filings for the last quarter of 1979 were released for those figures appeared to indicate a decrease from the previous quarter in the number of filings. The new year, however, brought definite indications that the previous quarter's apparent decline was not a sign of things to come."

[11]Carter [2] estimated that about 72 percent of the increased cases filed nationally in the four-quarter period ending June 30, 1981 were attributable to the change in the bankruptcy law.

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APPENDIX A

Time Series of Bankruptcy and Debt Burden Ratios

Year	Personal Bankruptcies Per 100,000 Population	Consumer Debt To Disposable Personal Income
1950	16.44%	12.4%
1951	17.95	12.0
1952	17.98	13.7
1953	20.80	14.5
1954	27.14	14.8
1955	30.26	16.4
1956	31.15	16.7
1957	36.99	16.8
1958	45.90	16.4
1959	50.02	17.8
1960	54.10	18.4
1961	71.53	18.4
1962	70.83	18.9
1963	73.55	20.3
1964	80.88	20.9
1965	84.10	21.6
1966	89.50	21.2
1967	96.49	20.9
1968	90.31	21.2
1969	83.63	21.4
1970	86.98	20.3
1971	88.02	21.0
1972	78.88	21.9
1973	74.00	22.2
1974	79.64	21.4
1975	105.05	20.4
1976	98.23	20.8
1977	84.01	22.0
1978	78.83	23.1
1979	89.30	23.4
1980	141.32	21.2
1981	199.80	20.6
1982	193.90	19.6

*Includes instalment and noninstalment credit.

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SOCIAL EFFICIENCY OF THE BANKRUPTCY REFORM ACT OF 1978 WITH REGARD TO PERSONAL BANKRUPTCY

A. Charlene Sullivan and Debra A. Drecnik*

Abstract

A socially efficient bankruptcy law is defined as one that minimizes the present value of creditors' losses stemming from bankruptcy while permitting debtors to retain sufficient assets or income to make a "fresh start." Analysis of a sample of petitions for personal nonbusiness bankruptcy shows that under the Bankruptcy Reform Act of 1978 about 30 percent of petitions for chapter 7 and about 25 percent of petitions for chapter 13 were cases where creditors' losses were not minimized as would be required under socially efficient bankruptcy legislation. The incidence of inefficiency in chapter 7 may be reduced under proposed reform [S.445 and H.R. 1800], as the judge would be provided with information concerning estimates of the creditors' recovery under both chapters and would disallow those chapter 7 cases which represented a substantial abuse of the intent of the bankruptcy law. Our data suggest that chapter 13 cases should also be scrutinized--petitioners should be prevented from providing "token" repayment plans to creditors while maintaining ownership of assets with value that greatly exceeds the value of asset exemptions.

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*Associate Director, Credit Research Center and Assistant Professor, Krannert Graduate School of Management, Purdue University and Assistant Professor, Northern Arizona University, respectively. The authors thank Claude Rice for providing the data for the chapter 13 sample and R. W. Johnson for helpful comments. Remaining errors are the responsibility of the authors.

SOCIAL EFFICIENCY OF THE BANKRUPTCY REFORM ACT OF 1978 WITH REGARD TO PERSONAL BANKRUPTCY

A. Charlene Sullivan and Debra A. Drecnik

The Bankruptcy Reform Act of 1978 was the product of many years of debate among lawyers and lawmakers. Although economists had little input to the debate, the incidence of bankruptcy has important economic implications, and socially efficient bankruptcy regulation is desirable. In this paper we evaluate the social efficiency of the law governing personal bankruptcy.

A "socially efficient" bankruptcy law is one that minimizes the present value of creditors' losses (social costs) stemming from bankruptcy, while permitting debtors to retain sufficient assets or income to make a "fresh start."[1] Data collected from a sample of petitioners for chapter 7 and chapter 13 are used to estimate the social efficiency of the current law and whether suggested reform would reduce the social cost of personal bankruptcy.

I. The Social Efficiency of Bankruptcy

The social cost of bankruptcy that concerns us in this study is the effect on the cost of credit for all credit users when a debtor voluntarily elects formal relief from debts in bankruptcy court. Since expected bankruptcy losses are a cost of doing business, increases in those costs raise the cost of credit in general. Those borrowers who repay their debts in full are thus forced to subsidize those debtors who avoid their repayment responsibility by taking bankruptcy.

The Debtor's Choice. A debtor who fails to make scheduled payments on outstanding debts out of current income has an alternative to formal bankruptcy which we call informal liquidation.[2] Informal liquidation involves the distribution to creditors of the proceeds realized from the voluntary sale of assets. So long as the liquidated value of assets exceeds the total of all creditors' claims, there is no dispute among creditors. However, if the liquidated value of assets is less than the total of creditors' claims, there will be conflict among creditors regarding the distribution of the proceeds. To insure equitable treatment, a creditor has an incentive to force the debtor into formal bankruptcy.

The stated purpose of formal bankruptcy is to provide a fresh start for the debtor and to insure equity among creditors. Given the current legal procedure for personal bankruptcy, a debtor with total assets less than or equal to the value of creditors' claims would always prefer formal bankruptcy to informal liquidation.[3] In formal bankruptcy, the debtor does not have to forfeit all assets, A, but only A-E where E is the market value of assets legally exempted from creditors' claims. The fresh start in bankruptcy is provided by the assets that are exempted.

An eligible debtor will choose formal bankruptcy when the expected net benefit exceeds the costs.[4] The marginal benefit of formal bankruptcy is the increase in net worth realized by the debtor--total liabilities discharged less total assets liquidated (if any). The costs of formal bankruptcy include court costs, legal fees and the loss of the expected value of benefits from future dealing with creditors.[5]

The question of social efficiency develops from the fact that debtors are free to choose between two avenues to formal debt relief. The debtor may continue making payments under the protection of the court, albeit at a level less than that specified in the original credit contract, keeping all assets intact (chapter 13) and discharging unpaid debts. Or, the debtor may have nonexempt assets liquidated by a trustee of the court and distributed to creditors (chapter 7) with remaining debts discharged. The rational debtor would choose that avenue that has the higher-valued effect on net worth. Socially efficient bankruptcy legislation would require the debtor to choose between continuance or liquidation in bankruptcy such that the final choice provides creditors with the higher-valued recovery.[6] The two objectives are in direct conflict. We turn now to a discussion of the specific provisions of the law regarding personal bankruptcy, an empirical analysis of the social efficiency of a sample of cases filed under the Bankruptcy Reform Act of 1978, and an estimate of the reduction in social cost which would be realized if debtors were required by law to make a socially efficient choice.

II. Legal Aspects of Filing Under Chapter 13 of the Bankruptcy Code in Lieu of Chapter 7

In liquidation (or straight bankruptcy), all nonexempt assets owned by the debtor are converted to cash and distributed to creditors with allowed claims according to priority rules. At the end of the proceedings, the debtor receives a discharge that absolves him or her from responsibility to pay any dischargable debts that remain unpaid after the distribution of the proceeds from the sale of assets. Under chapter 13 of the

Bankruptcy Code, the debtor proposes a plan for payment of allowed claims out of future income under court supervision. The debtor and usually all the debtor's property are protected from creditors by the court. At the conclusion of the case, the debtor receives a discharge from personal liability of most remaining unpaid debts.

A concept in the new Bankruptcy Code which did not exist under the previous code is that of the "allowed secured claim." The term is applicable under both chapters of the Code dealing with personal bankruptcy. A secured claim is an allowed secured claim in the amount equal to the value of the collateral. The excess of the total claim over the value of the collateral is an allowed unsecured claim.

Any petitioner may file for formal debt relief under chapter 13 if outstanding debts are under specified debt ceilings and there exists sufficient regular income in excess of necessary living expenses to make debt payments. Regular income is not limited to earned wages, but may include welfare payments or income derived from the property of the estate. To exclude large business concerns from gaining protection under chapter 13, the outstanding debt of an individual or couple, if the petition is jointly filed, must be below $100,000 for unsecured debt and $350,000 for secured debt, including mortgage debt.[7]

To be confirmed by the bankruptcy court, the proposed repayment plan must be (1) feasible, (2) made in good faith, and (3) in the best interest of the unsecured creditors. Feasibility refers to the debtor's ability to make the proposed payments after basic living expenses, as well as a cushion for unexpected expenses, are deducted from regular income. The good faith requirement implies that the debtor is in no way attempting

to use the flexibility of the chapter 13 plan to effect a disguised liquidation and discharge of debt without the loss of assets associated with a chapter 7 bankruptcy. The last requirement means that unsecured creditors are to receive at least as much in repayment as they would if a debtor's nonexempt assets were liquidated by the court.[8]

Once a petitioner has begun repayment, two types of discharge are available. When all payments under the approved plan have been completed, a "full-payment" discharge releases the debtor from all remaining liabilities--even those debts that are nondischargeable under chapter 7 (with the sole exception of alimony and support payments and certain education loans). If the debtor is not able to complete the plan, a hardship discharge may be granted under three conditions:

(1) If failing to complete the plan is due to circumstances beyond the debtor's control;

(2) if modification of the plan is not possible; and

(3) if the amount already repaid to unsecured creditors is not less than what they would have received under chapter 7.

The current code allows a debtor to choose to pay the lesser of L, the liquidation value of nonexempt assets, or P, the present value of payments as specified in a repayment plan which meets the requirements for chapter 13. Bankruptcy law that would minimize the social cost of bankruptcy would direct the debtor to propose a "best effort" repayment plan P and would require the debtor to choose between liquidation or continuance such that creditors would receive the higher-valued recovery. In the current debate for reform, creditors argue that the effects of

existing regulation are socially inefficient because the petitioner is allowed to choose to repay L (take chapter 7) even though P may be greater than L. As a consequence, consumers choose liquidation too frequently and thereby impose excess social costs on consumers who repay their debts.

In the following analysis we estimate the payments to creditors under continuance (P) and under liquidation (L) for two groups of petitioners. One group filed under chapter 7 of the bankruptcy code; the other group filed under chapter 13 of the code. With estimates of the creditors' recovery under both chapters, we are able to analyze the social efficiency of the actual choice and estimate the reduction in social cost that could be expected if petitioners' choice of bankruptcy option was limited.

III. The Analysis

The data for chapter 7 included 1139 households who filed a personal nonbusiness bankruptcy petition in June-July 1981. The sample was drawn randomly from the population of petitioners in ten states and is representative of the population of petitioners for chapter 7. The states included were California, New York, Ohio, Illinois, Georgia, Virginia, Pennsylvania, Louisiana, Wisconsin and Texas.

The sample of petitioners for chapter 13 included 5047 households who filed repayment plans in mid-summer 1982 and whose plans were subsequently approved. The data were collected from documents filed with an agent who provides bookkeeping services to the trustees of chapter 13 petitioners. The sample included petitioners from the states of California, New York, Ohio, Illinois, Pennsylvania, Missouri, Tennessee, Arkansas and Mississippi.

The data for both samples include information concerning total assets, total liabilities, exemptions (as claimed on the petition), mortgage debt, secured and unsecured debt and income. Court-approved payment plans were available for the chapter 13 sample and "best effort" repayment plans were estimated for the chapter 7 sample. Information was obtained for the latter sample concerning housing expenses, taxes, nontaxable income, number of dependents and extraordinary medical and childcare expenses to estimate necessary living expenses and repayment plans that could have been proposed by the chapter 7 sample.

A. Estimate of Repayment Schedule for Chapter 7 Sample

To be acceptable, repayment plans in chapter 13 must be feasible, in good faith, and provide equity to creditors. Estimating a repayment plan required specifications of future income and necessary living expenses.

Future income. Almost 80 percent of the sample of petitioners for chapter 7 listed at least one party who was employed full time at the time the petition was filed. To estimate future income, we used current income unless it was significantly lower than annual income reported on the bankruptcy petition for the year before the petition was filed. If it was significantly lower, but the petitioner did not indicate that the bankruptcy was attributable to loss of employment, income for the previous year was used as an estimate of current income. We assumed that income over the 36-month repayment period would remain at that constant level.

Basic Living Expenses. To estimate basic living expenses (BLE) we assumed petitioners for chapter 7 would retain their current residence

and all related housing expenses, meet key extraordinary expenses and live modestly above the poverty level base as defined by the Bureau of Census. We used the base level plus ten percent of nonhousing expenses plus actual housing expenses plus extraordinary expenses in the final calculation of necessary living expenses. Adjustments were made in the BLE estimates to reflect interregional and metropolitan-nonmetropolitan differences in the cost of living for low-income families. Estimates of Federal tax liabilities were based on the standard deduction and deductions for dependents.

Ability to Repay Debts. Federal taxes and basic living expenses were deducted from estimated permanent income to determine the monthly amount available to repay nonmortgage debts. Assuming a maximum repayment period of 36 months, we estimated the percent of nonmortgage debts paid in the repayment period (Exhibit 1).

Slightly more than half of the chapter 7 sample who provided data necessary to make the calculations could repay none of their nonmortgage debts out of income after living expenses, because their necessary living expenses equalled or exceeded income. In our earlier terminology, P, the present value of the "best effort" repayment plan, was equal to zero for this group and their choice of liquidation over continuance was socially efficient--the value of assets liquidated (L) in chapter 7 had to be greater than or equal to zero. The estimate of P was greater than zero for the rest of the chapter 7 sample. In fact, almost 21 percent of the sample could have repaid 100 percent of their debts out of income in less than 36 months.

EXHIBIT 1

SIMULATED REPAYMENT PLAN FOR

CHAPTER 7 PETITIONERS

Percent of Debt Repayable Within 36 Months	N	Percent
0%	526	52.0%
1 - 20%	72	7.1
21 - 40%	58	5.7
41 - 60%	56	5.5
61 - 80%	42	4.2
81 - 100%	48	4.7
Greater than 100%	210	20.8
Not ascertained*	127	--
	1,139	100.0%

SOURCE: Credit Research Center, 1981 Bankruptcy Study.

*These respondents did not provide data necessary to estimate a repayment plan.

One might argue that the estimates of living expenses were too restrictive, thus providing a spurious view of the ability of the chapter 7 sample to repay their debts out of income. To address that issue the distributions of the estimates of living expenses and monthly debt payment as a percent of income for those in the sample of chapter 7 cases with some ability to repay their debts out of income, according to our estimate, were compared with those provided in the court-approved plans of the chapter 13 sample.

B. Comparison of Expenses and Repayment Schedules of Chapter 7 and Chapter 13 Samples

Ratio of Living Expenses to Pretax Income. For the chapter 13 sample, living expenses as specified by the petitioners were, on average, 75.6 percent of pretax income (Exhibit 2). About five out of every ten petitioners for chapter 13 indicated living expenses that were between 81 and 99 percent of before-tax income. With our definition of basic living expenses (BLE) for the chapter 7 sample (110 percent of nonhousing BLE plus actual housing expenses), the mean of the expenses-to-income ratio was 74.9 percent with almost 4.5 out of ten petitioners having living expenses that absorbed between 81 and 99 percent of pretax income.

Proportion of Nonmortgage Debts Repayable in Three Years. The average simulated annual debt payment calculated for the chapter 7 sample was 18.3 percent of pretax income relative to an average of 15.6 percent for the chapter 13 sample. About four percent of each sample had repayment plans with debt payments exceeding 40 percent of income. For each petitioner in each sample, a three-year payout period was assumed. For those who could repay 100 percent of allowed claims in less than three

EXHIBIT 2

COMPARISON OF ESTIMATED AND ACTUAL LIVING EXPENSES

Living Expenses As a Percent of Pretax Income	Chapter 7 Basic Living Expense + 10% Of Nonhousing Expenses	Chapter 13
0%	0	2.6
1 - 20	1.3	.5
21 - 40	1.3	1.5
41 - 60	12.9	7.9
61 - 80	40.9	36.1
81 - 99	43.7	51.4
	100.0%	100.0%
Mean of living expenses to pretax income	74.9%	75.6%

SOURCE: Credit Research Center, 1981 Bankruptcy Study.

years, given their reported or calculated annual debt payment (for chapter 7, this was equal to annual after-tax income minus total living expenses), the simulated annual debt payment was equal to total debt divided by three years. The distributions of the proportion of debts repayable in three years for those chapter 7 petitioners for whom $P > 0$ and for the chapter 13 sample are shown in Exhibit 3. The two distributions were statistically identical. Moreover, debtors were admitted to chapter 13 with repayment plans which provided for the repayment of approximately the same mean percentage of nonmortgage debts (66 percent) as was possible in the simulated plans for the chapter 7 sample (68 percent). One would expect repayment plans proposed by debtors in chapter 13 to be based on liberal estimates of necessary living expenses.[9] The fact that the distribution of the simulated payout ratios for the chapter 7 sample who could repay something out of income is not significantly different from that of the chapter 13 sample suggests that our estimates of necessary and extraordinary living expenses are reasonable.[10]

C. Social Efficiency of the Bankruptcy Reform Act of 1978

The comparison of the liquidation value of the petitioners' estates and the present value of scheduled (or simulated) payments for the two groups of petitioners provided an estimate of the frequency of bankruptcy cases (chapter 7 and chapter 13) which do not provide the higher-valued recovery to creditors. The present value of the monthly debt payments (P) for each petitioner in both groups of petitioners was calculated using zero, one and two percent monthly discount rates. The new liquidation value (L) of estates of petitioners in each group

EXHIBIT 3

COMPARISON OF ESTIMATED AND ACTUAL PAYOUT RATIOS

Percentage of Debt Repayable In Three Years	Chapter 7 Basic Living Expense + 10% of Nonhousing Expenses	Chapter 13
1 - 20%	11.9%	13.0%
21 - 40	15.7	12.9
41 - 60	11.7	12.8
61 - 80	10.9	17.2
81 - 100	49.7	43.9
Missing		0.1
	100.0%	100.0%
Mean percentage of debts repayable in three years	68%	66%

SOURCE: Credit Research Center, 1981 Bankruptcy Study

was calculated by subtracting mortgage debt plus asset exemptions from the market value of total assets.

Chapter 7. Even at a zero discount rate, the present value of the estimated monthly payments was less than the net liquidation value of the petitioner's estate for almost 60 percent of the petitioners under chapter 7 (Exhibit 4).[11] The choice made by those petitioners to liquidate was socially efficient in that the liquidation provided creditors with a greater recovery than would have been available had the petitioners filed under chapter 13. The present value of payments, P, was greater than the liquidation value of the estate, L, for about one-third of petitioners for chapter 7. These bankruptcies, by our definition, though legal, were not socially efficient. For the balance of the sample the present value of monthly payments and the liquidation value of assets were equal to zero.[12]

Chapter 13. About 75 percent of the petitioners for chapter 13 were scheduled to pay more to creditors under the reorganization plans approved by the court (assuming zero discount rate) than they would have if they had liquidated nonexempt assets under chapter 7. The balance of the sample had court-approved plans that allowed them to pay less than would have been paid under chapter 7. Under either chapter of the code, secured creditors are paid before unsecured creditors. With the assumption that secured creditors' allowed claims are the same under chapter 7 or chapter 13, P would have to be at least equal to L to satisfy the "good faith" requirement with regard to unsecured creditors. Thus, the repayment plans for about 25 percent of the chapter 13 sample did not satisfy one of the legal requirements for an approvable repayment plan ($P \geq L$).

EXHIBIT 4

ANALYSIS OF CREDITORS' RECOVERY UNDER BANKRUPTCY ALTERNATIVES

	Present Value Of Payments > Liquidation Value	Present Value Of Payments = Liquidation Value[1]	Present Value Of Payments < Liquidation Value	Total
a. Zero monthly discount rate for payments				
Chapter 7	31.7%	9.2%	59.1%	100%
Chapter 13	73.4	0	26.6	100%
b. Two percent monthly discount rate for payments				
Chapter 7	27.2	9.2	63.6	100%
Chapter 13	62.0	0	38.0	100%
c. Fifty percent discount on liquidation value with two percent monthly discount rate for payments[2]				
Chapter 7	34.1	9.2	56.7	100%
Chapter 13	69.6	0	30.4	100%

SOURCE: Credit Research Center, 1981 Bankruptcy Study

[1] For chapter 7 sample, P was zero and L was negative for this group.

[2] Stanley and Girth [3] indicated that in cases where assets were actually sold by the trustee the members of the petitioners family would frequently buy the assets. In those cases the proceeds realized from the sale were very low.

Impact of Reform. Proposed reform of the bankruptcy law would require a debtor to file conditionally under either chapter 7 or chapter 13. The debtor would then receive counseling from the bankruptcy trustee concerning his or her rights under both chapters. If the bankruptcy judge determined that a discharge would constitute a "substantial abuse" of the bankruptcy system, the judge would be allowed to dismiss a chapter 7 case. With no definition of "substantial abuse," it is not clear whether this reform will reduce the incidence of socially inefficient bankruptcy. However, a case could be made for modifying the proposed reform to include a definition of "substantial abuse" as a choice that is socially inefficient. We estimate that about 30 percent of petitions for chapter 7 in 1981 represented socially inefficient decisions. Extrapolating our results to the population of debtors filing chapter 7 in 1981, had the above reform been in effect in 1981, bankruptcy losses of creditors in that year would have been $600 to $757 million lower (see Appendix A).[13]

Our analysis also raises question about the "good faith" of current repayment plans under chapter 13. The data suggest that the law with regard to chapter 13 is not being effectively enforced. We estimated that annual savings to creditors of petitioners for chapter 13 in 1981 would range between $220 and $270 million if those petitioners had been required to pay the greater of the liquidation value of nonexempt assets and the present value of their "best effort" repayment plan (see Appendix A).

IV. Conclusion

In Consumers' Right to Bankruptcy [3], it was shown that about 20 percent of a sample of petitioners for personal bankruptcy under chapter 7 of the Bankruptcy Reform Act could have repaid 100 percent of their nonmortgage debts out of income after living expenses within a three-year repayment period. Another 28 percent of the sample could have repaid some portion of their nonmortgage debts out of income. If petitioners for chapter 7 who could repay a reasonable portion of their debts out of income were required to do so, it was estimated that annual bankruptcy losses would be reduced by $800 million to $1.1 billion.[14] These data were presented in testimony in support of reform in the code which would have required petitioners for personal bankruptcy to file under chapter 13 if it was determined that they could repay a "reasonable portion of debts."

The goal of reform in bankruptcy legislation is to reduce the social cost of bankruptcy while maintaining provisions that provided a fresh start for debtors who have lost control of their financial affairs. In this paper we define socially efficient bankruptcy legislation as that which minimizes the present value of creditors' losses stemming from bankruptcy while providing consumers with sufficient assets or income to make a fresh start. To minimize creditors' losses, a petitioner would be required to choose that route to debt relief (chapter 7 or chapter 13) that would provide the higher valued payout to creditors.

We estimate that creditors of about 30 percent of petitioners who filed under chapter 7 of the code would have enjoyed lower costs (higher recovery) if those petitioners had been required to file under chapter 13.

This would have provided a reduction in total bankruptcy losses to creditors in 1981 of between $600 million and $757 million per year. For the rest of chapter 7 petitioners, creditors would be indifferent or worse off if petitioners had filed under chapter 13. Creditors for about 25 percent of chapter 13 petitions would also have enjoyed a higher recovery if those petitioners had been required to file under chapter 7. These savings were estimated at about $250 million per year.

The wording of proposed bankruptcy reform [S.445] would require that the judge be given sufficient information to reject petitions for liquidation that represent a "substantial abuse" of the bankruptcy system. The results of this study show that if "substantial abuse" were defined to eliminate those cases where the proceeds from the liquidation of assets was less than the present value of payments out of income after necessary living expenses, the social costs of chapter 7 bankruptcy would be reduced. The results of this study also suggest that all petitions, not just those for chapter 7, should be evaluated to reduce the social costs of bankruptcy. A significant percentage of petitioners for chapter 13 could have paid more to creditors if they had been required to liquidate their estate rather than repay debts out of future income.

FOOTNOTES

[1]There is no specific legal definition of what is required to make a fresh start. In chapter 7, the means to a fresh start is provided through asset exemptions; in chapter 13 the means is provided through the retention of assets, limitation of debt payments to that amount of income above necessary living expenses and the limit on the length of the repayment period.

[2]See Haugen and Senbet [2].

[3]Debtors with assets exceeding the value of debts could be indifferent between formal and informal bankruptcy.

[4]An eligible debtor is one who has not filed chapter 7 for at least six years.

[5]See Umbeck and Chatfield [6].

[6]See White [7] for a discussion of socially efficient corporate bankrutpcy.

[7]Note that this does not preclude small businesses from filing under chapter 13.

[8]To satisfy the last stipulation, the chapter 13 petitioner will necessarily claim the highest amount of asset exemptions allowed by law. The plan would be confirmed more readily if it appears that most of the petitioner's assets would be exempt and thus not available for liquidation to repay debt had the petitioner filed under chapter 7.

[9]Assuming all other things constant, n dollars recovered under chapter 7 or chapter 13 goes to secured creditors. Thus, unsecured creditors will receive L-n or P-n. Consequently, the condition $P \geq L$ satisfies the "good faith" requirement for an acceptable repayment plan.

[10]A recent study by the Government Accounting Office [1] found that 42 percent of petitioners for chapter 7 were very similar to petitioners for chapter 13 in terms of assets, debts and income.

FOOTNOTES--continued

[11]All petitioners for chapter 7, including those who could have repaid nothing out of income were included in this comparison. We found previously that 50 percent of the chapter 7 sample had P = 0.

[12]In some cases the value of exemptions exceeded the value of total assets. The maximum valued allowed exemptions were listed on the petition to reduce consequences of any challenges that might be made to the initial asset valuation by creditors.

[13]The simulated repayment schedules for the chapter 7 sample covered a maximum of three years.

[14]The estimate of 1.1 billion was based on a five-year repayment period.

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APPENDIX A

ESTIMATE OF COST REDUCTION FROM CHANGE IN BANKRUPTCY GUIDELINES

Chapter 7

A. Zero monthly discount rate for payments

Present value of payments was greater than liquidation value of assets for 31.7 percent of the chapter 7 sample. The present value of payments exceeded liquidation value of assets by an average of $10494.96 for that group. We extrapolated from that figure to get an estimate of the savings in social costs of bankruptcy that would be realized if social efficiency guidelines had been established in 1981 for chapter 7. That calculation is shown:

Estimate of number of chapter 7 cases in 1981	= 227,540
Size of sample included in savings estimate	= 775
Percent of sample with P > L	= 31.7%
Average dollar value of savings per petition in group with P > L	= $10494.96

National savings if those petitioners for chapter 7 with P > L were required to pay P rather than L:

$$= \frac{227,540}{775} \times \frac{775(10494.96)}{1} \times 31.7\%$$

$$= 293.6 \times 8,133,594 \times .317$$

$$= \$757.04 \text{ million}$$

A. Two percent monthly discount rate, 50 percent discount of liquidation value

Savings if those petitioners for chapter 7 with P > L were required to pay P rather than L:

$$= \frac{227,540}{775} \times \frac{775(7742.66)}{1} \times .341$$

$$= 293.6 \times 6,000,561.50 \times .341$$

$$= 600.77 \text{ million}$$

Chapter 13

A. Zero monthly discount rate applied to payment stream

Estimated number of chapter 13 cases in 1981 = 87460

Estimate of savings per case with L > P = $11654.78

Percent of sample with L > P = 26.6%

Estimate of total savings:

$$= \frac{87460}{5040} \times \frac{5040(11654.78)}{1} \times .266$$

$$= 17.35 \times 58,740,091 \times .266$$

$$= \$271 \text{ million}$$

B. Two percent of monthly discount rate, 50 percent discount of liquidation value

Savings if petitioners for chapter 13 with L > P were required to pay L rather than P:

$$= \frac{87460}{5040} \times \frac{5040(8302.32)}{1} \times .304$$

$$= 17.35 \times 41,843,692 \times .304$$

$$= 220.69 \text{ million}$$

Total savings from chapter 7 and chapter 13

A. Zero discount rate, liquidation value equal to 100% of market value:

$757.04m + $271m = $1.028 billion

B. Two percent monthly discount rate, liquidation value equal to 50 percent of market value

$600.77m + $220.69m = $821.46 million

1. For comparison purposes we used the estimate of number of bankruptcies, adjusted for the incidence of joint filings, that was used in [3].

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